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EVALUATION OF THE WASHINGTON STATE FOOD STAMP CASHOUT DEMONSTRATION

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EXECUTIVE SUMMARY

Washington State's welfare reform initiative, the Family Independence Program (FIP), incorporates food stamp benefits into public assistance checks, a form of food stamp cashout. An evaluation of the cashout component is part of the overall FIP evaluation and has two parts: (1) administrative costs and (2) food use and expenditures, nutrient availability, and recipient attitudes. This report presents the results of the latter study.

The Evaluation

The FIP evaluation is based on a comparison site design. Pairs of sites were matched on a set of geographic and caseload characteristics and five pairs were selected. Once selections were complete, each site within a pair was assigned to an "A" or "B" group. A toss of the coin then decided whether group "A" would become the treatment or comparison group of sites. The research sample was then randomly selected from the caseload at each site. New welfare applicants in the treatment sites were enrolled in FIP (and the cashout food benefit program). Recipients of AFDC in the treatment sites at the time FIP was implemented were given the choice between remaining on AFDC and changing to FIP. All welfare clients in the comparison sites remained (and for applicants became) AFDC and food stamp coupon recipients.

To avoid any self-selection bias, the results reported here are based on new applicants in both treatment and control sites: 399 households in the cashout sample and 381 households in the coupon sample. Data were collected from August through October 1990. In-person interviews with the main food manager collected detailed data on household expenditures, food use, shopping patterns, and attitudes to the benefit form.

Differences between the cashout and check samples are relatively minor in terms of the key characteristics of household size and income. Total cash income (other than food benefits) averages $398 for the check households and $362 for the coupon households. On average, food benefits constitute 29 percent of the combined total of cash and food benefit income for both groups. Average household size for the two samples is not different in a statistical sense for either number of persons, number of Equivalent Nutritional Units (ENUs), or number of Adult Male Equivalents (AMEs). The ENU is a measure of household size that adjusts for number of persons by age and sex, and by the proportion of meals eaten out of household food supplies. The samples vary in other personal and household characteristics, but regression analysis indicates that these differences have no appreciable effect on the estimated outcome differences between cashout and coupon households.

Results in Brief

- Are the food expenditures of households that receive cash benefits different from those that receive coupon benefits? **Yes, households receiving cash benefits have lower food expenditures.**

- Are the relative shares of major household budget items devoted to food and nonfood categories different for check than for coupon households? **Yes. Cashout households spend less than coupon households on, and devote a lower budget share to, food purchased for home consumption, have similar patterns for food purchased for use away from home, and spend more on, and devote a higher budget share to, shelter and transportation.**

- Is the nutrient availability of the household food supply different for cashout than for coupon households? **Yes. Cashout households have lower mean nutrient availability than coupon households for a number of nutrients, although the majority of all households exceed the RDA levels for most nutrients. Nutrient availability per dollar for several nutrients is higher for check than for coupon households.**

- Is recipients' perceived control over food spending, difficulty in budgeting food expenses, and degree of stigmatization different for cashout than for coupon issuance? **Yes. Both cashout and coupon recipients perceive cashout as reducing control over the household food budget, increasing the difficulty in budgeting food expenditures, and substantially reducing stigma. The restrictions coupons place on household budgeting are seen as having advantages and disadvantages by respondents in both groups.**

4.9 percent for coupons households, a difference that is significant at the .01 level. The average share of dollars spent at specialty stores is 4.8 percent for check households and 3.2 percent for coupon households, a difference that is significant at the .10 level.

Quantity and Value of the Household Food Supply

Check households have less food available than coupon households. Check households use an average of 40 pounds of food per week per ENU, compared to 44 pounds for coupon households, a difference that is significant at the .01 level. There is no evidence suggesting that the pattern of food use among major food groups is different for the two samples, although for 9 of the 33 food subgroups analyzed, check households use less food than do coupon households (significant at the .10 level). The money value of food used at home per ENU is significantly less for check than for coupon households for 9 of the 33 food subgroups, at the .10 level or better.

Nutrient Availability of Household Food Supply

Check households generally have less nutrient availability than coupon households. Nutrient availability is typically substantially higher than the Recommended Daily Allowance (RDA) for both groups, however. And nutrient availability per dollar is higher for check than for coupon households. The findings indicate both the mean availability of specific nutrients and the proportion of the households for whom the availability exceeds the RDA. Comparisons are made between the two household groups, not between nutrients.

The mean availability for food energy and protein is significantly less (at the .05 level) for check than for coupon households, though mean availability still exceeds the RDAs. The mean availability of food energy per ENU is 132 percent of the RDA for check households and 144 percent for coupon households. The proportion of households with food energy less than the RDA is 31 percent for check households and 25 percent for coupon households, a difference that is significant at the .10 level. The mean availability of protein per ENU is 243 percent of the RDA for check households and 265 percent for coupon households, a difference that is statistically significant at the .05 level.

Nutrient availability per ENU (expressed as a percentage of the RDA) for each of seven micronutrients is lower for check than for coupon households, and for vitamin A, vitamin B6, folate, calcium and zinc the differences are significant at the .10 level. The average level of availability for all the nutrients remains above the RDAs, however. Nutrient density is similar for the two groups.

Nutrient availability per dollar for several nutrients is higher for check than for coupon households: iron, vitamin B6, and vitamin C, significant at the .10 level or better; food energy and protein, significant at the .05 level.

Participation in Food Assistance Programs

Participation in food assistance programs is higher for check than for coupon households. Of the check households, 20 percent reported participating in the commodities program compared with 8 percent of coupon households. For households with pregnant women or children younger

than age five, 50 percent of check households reported using WIC vouchers compared with 37 percent of coupon households. Both differences are statistically significant at the .10 level.

Recipient Attitudes Toward Food Stamp Checks and Coupons

Members of both groups see advantages and disadvantages to both check and coupon issuance. The three most commonly mentioned advantages of checks over coupons are that checks can be used for other necessities (cited by 51 percent of check recipients and 43 percent of coupon recipients), that checks are less embarrassing (cited by 28 percent check recipients and 13 percent of coupon recipients), and that checks allow you to feel more dignified (cited by 18 percent of check recipients and 5 percent of coupon recipients). Consistent with findings on food purchasing patterns, 8.5 percent of check respondents and 7.6 percent of coupon respondents noted that checks offer more choice of food stores.

Recipient answers to questions about household budgeting highlight the perceived advantages of coupons over checks. Over 73 percent of coupon respondents agreed or strongly agreed that food stamps give more control over the household budget, compared with 35 percent of check households. Over 80 percent of coupon households agreed or strongly agreed that food stamp coupons are helpful in budgeting compared with 57 percent of check households.

Conclusions

All public assistance families live below the poverty line. They are constantly forced to make choices regarding which necessities they provide for their children. The availability of food cash allows households participating in FIP cashout greater flexibility in the use of their money

and they report spending more of their disposable income on transportation, housing and other necessities. These choices are not always easy and FIP families report somewhat greater difficulty in budgeting food expenses than those receiving coupons. They are also more likely to see food cash as reducing the stigma of receiving food assistance.

I. INTRODUCTION

The goal of the welfare reform initiative in Washington State--the Family Independence Program (FIP)--is to increase the self-sufficiency of welfare families and decrease the number of children growing up in poverty. FIP plans to reach this goal by redefining the interaction among income maintenance, education and training activities, employment, and supportive services available to recipients of Aid to Families with Dependent Children (AFDC). In particular, FIP: (1) provides a strong education, training, and work component; (2) changes the structure of the income support system; and (3) expands the availability of child care and other family supportive services for families on welfare and provides transitional child care and Medicaid benefits for families that leave welfare with earnings.

An important component of changing the structure of the income support system is to convert Food Stamp Program benefits from coupons to cash. This report describes the impacts of the FIP cashout on recipients' expenditures, food use and nutrient availability. The rest of Chapter I provides background and context with a brief description of the overall FIP program and evaluation and an overview of the four cashout demonstrations being conducted by FNS (including the FIP cashout in Washington State). Chapter II describes the data and methodology used for the cashout evaluation. Chapter III through VI present the results. Chapter VII summarizes the findings.

A. Overview of the FIP Program and Evaluation

FIP is a state-initiated alternative to the Aid to Families with Dependent Children (AFDC) program and to the Washington Employment and Opportunities Program (WEOP)--the state work-welfare program component of AFDC at the time FIP was implemented (July 1988). WEOP was replaced with the Job Opportunities and Basic Skills (JOBS) Program in October 1990, as required by the federal welfare reform embodied in the Family Support Act of 1988. FIP operates with waivers as a modified JOBS program.

The major features of FIP are as follows:

- Voluntary Participation in Employment and Training Activities. Under FIP, welfare participants are given the option to participate in employment and training activities. In theory, this contrasted with WEOP's requirement that all AFDC clients with children over six years old register and cooperate with WEOP unless they meet certain exemption criteria. In practice, however, the WEOP requirement was not generally enforced.

- Enhanced Supportive Services. In order to reduce the barriers to participation, child care and other supportive services are provided for clients who are working and for those participating in education and/or training activities under FIP. FIP offers a new and large source of child care funding not available to AFDC/WEOP clients.

- Work and Training Incentives. Under FIP, financial incentives, or bonuses, are available to clients participating in training, education, and work programs. The incentives are an additional percentage of the "benchmark" standard--the AFDC cash payment standard plus the cash value of the food stamp allotment. Participants in education or training receive a bonus of 5 percent above their benchmark grant amount, participants who work half time receive a 15 percent bonus, and participants who work full time receive a 35 percent bonus.[1]

1. These incentives are not included in the food benefit calculation.

- Food Stamp Cashout. Instead of food stamp coupons, FIP provides clients with the actual cash equivalent of the coupon allotment (referred to as "cashing out food stamps").[2] The cash equivalent of the food stamp benefit is added to the monthly welfare check. The objectives of cashing out food stamps are to simplify administrative complexities, give recipients more flexibility and independence and spare recipients the stigma that is sometimes associated with receiving food stamps.

- Transitional Benefits. Like the JOBS program but unlike AFDC prior to FIP, FIP extends child care subsidies and Medicaid coverage for up to a full year to clients who are no longer eligible for cash assistance due to increased earnings. These transitional benefits are intended to ease the move from welfare to work by cushioning the loss of public assistance benefits and supportive services.

- Targeting Young Parents. FIP places special emphasis on improving opportunities for pregnant and parenting teens and youth (PPTs) aged 22 or less, as they are judged to be at particularly high risk of becoming long-term recipients. For these clients, FIP's standard services and benefits are supplemented by additional supportive services and a special 5 percent incentive payment to PPTs who participate in a high school or a GED class.

Other changes associated with FIP include an integrated approach to case management and simplified application procedures.

FIP operates as a welfare demonstration program under waivers from federal law for a five-year period. As part of the FIP demonstration, Washington State is conducting an evaluation of the program's ability to help families enter the work force and attain economic independence.

The evaluation of the FIP demonstration has three broad objectives:

1. To assess the effect of FIP on program costs, caseloads, and the economic well-being of children and families,

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2. Just as AFDC clients are categorically eligible to receive Food Stamp Program benefits, FIP clients are categorically eligible to receive the cash equivalent of these benefits.

2. To assess the effects of various employment and training activities under FIP on welfare recipients' labor market outcomes, and

3. To identify the practices and procedures that result in an effective welfare program.

In addressing these objectives, the evaluation has four interrelated components--a process analysis of the implementation and operation of FIP, an analysis of the net impacts of the program on welfare recipients' behavior, a cost-benefit study, and an analysis of the impacts of the cashout of food stamps. The first component of the evaluation considers program implementation and operations. The issues to be addressed include: how FIP differs operationally from AFDC; how the AFDC and FIP programs change over time; how the programs differ by location (e.g., urban vs. rural areas); and what practices, procedures, organizational features, and interorganizational linkages contribute to a successfully run program. Periodic interviews with program administrators and staff, questionnaires completed by the staff, observations of group activities, and program documents and records are the data sources for this part of the evaluation.

The second component, the net impact analysis, focuses on estimating the overall effect of FIP (versus the AFDC program) and the specific effects of the various employment and training components on welfare recipients' employment and earnings, duration of welfare receipt, and welfare recidivism. This part of the evaluation uses administrative data from welfare, employment services, and education management information systems.

The cost-benefit analysis, the third component of the evaluation, examines how the administrative costs of FIP compare with those of AFDC, how benefits paid under FIP compare with benefits under AFDC, what the long-term savings from FIP are likely to be for both the

state and federal governments, and what the costs and benefits are to FIP participants. This analysis will be based on the impact results analysis and on administrative cost records data.

The cashout analysis, the fourth component, consists of two separate analyses. The first examines the impact of the cashout demonstration on the administrative costs of the Food Stamp Program (Young and Yudd, 1992). The second, the subject of this report, assesses the impact of cashout on the expenditures and food use of recipient households.

B. Cashout Policy Issues and FNS Demonstration Projects

The Food Stamp Program (FSP), administered by the Food and Nutrition Service of the U.S. Department of Agriculture, provides monthly benefits to households that meet certain income, asset, and employment-related criteria. The program's purpose is to help households maintain nutritious diets by providing them with assistance in purchasing food supplies. FSP benefits are available to recipients in the form of coupons that may be exchanged for food at USDA-authorized food retailers. In recent years, the alternative of issuing food stamp benefits in the form of checks instead of coupons has received increasing attention. Supporters of cash issuance argue that cashing out food benefits would give recipients freedom of choice in food purchase and would reduce the stigma associated with the use of coupons and, in turn, promote program participation by eligible households. Supporters also argue that the simpler administrative procedures of cash issuance could produce cost savings. Supporters of maintaining coupon issuance argue that cashout may threaten program integrity and effectiveness, leading recipients to use benefits to purchase nonfood items, prepared foods, or food to be eaten away from home--resulting in lower diet quality.

Evaluating the cashout alternative is not a new idea. In 1980, FNS conducted a demonstration in nine sites nationwide in which elderly food stamp recipients and those receiving Supplemental Security Income (SSI) received their FSP benefits in the form of checks. In 1982, the Commonwealth of Puerto Rico cashed out food stamps under its Nutrition Assistance Program (NAP).

The evaluations of the SSI/Elderly demonstration and the Puerto Rico experience suggest that switching from coupons to cash benefits reduces the costs of administering the FSP and makes the program somewhat less vulnerable to the loss, theft, or fraudulent use of program benefits, without significantly affecting the food expenditures and nutrition of recipients (Blanchard, et. al., 1982; Beebout, et. al., 1985). However, both the nonrepresentativeness of the populations involved and methodological constraints limit the generalizability of these results.[3]

To further explore the impacts of cashout, FNS is undertaking three demonstrations in addition to the one in Washington State--one in San Diego County and two in Alabama. One of the Alabama evaluations, the ASSETS study, focuses on cashout in the context of wider welfare reform, the other focuses on "pure" cashout. Each of the four evaluations addresses the effects of cashout on general household expenditures, household food expenditures, recipient attitudes about the form of the benefit, and administrative costs. With the exception of the Alabama ASSETS study, they also evaluate the effects of cashout on food use. In addition, the

3. For example, in the SSI/Elderly Demonstration, elderly households tended on average to have quite low levels of food stamp benefits relative to income. Thus, the form of the benefit may have had less of an impact on this group than on households for which food stamps constitute a greater share of total resources. In addition, neither demonstration was structured to include the random assignment of FSP households to cashout versus coupon status.

San Diego and the Alabama pure cashout evaluations include a study of impacts on retailers dn the San Diego study evaluates program participation.

The four evaluations provide an opportunity to gather comparable data from different demographic populations. They vary with respect to: (1) the nature of the study designs; (2) the introduction of concurrent welfare program changes; and (3) the magnitude of the food stamp benefits relative to other assistance program benefits. The ratio of AFDC payments to food stamp benefits, for example, is low in Alabama, near to average in Washington State, and high in San Diego relative to other states.

The Alabama ASSETS evaluation, based on a matched comparison site design, includes three experimental and three control counties and a sample of approximately 1,200 households. All FSP participants in ASSETS counties received cashed-out benefits, providing an evaluation sample representative of the food stamp population as a whole.

The "pure" cashout demonstration in Alabama and the San Diego study, in contrast, only test cashout without making any other changes in their welfare programs. The "pure" Alabama study was implemented in 12 randomly selected counties. The total study sample included 1,200 cash and 1,200 coupon households, and was distributed among the selected counties in proportion to their size. The San Diego cashout study has two phases. In the first phase, 20 percent of the county caseload (approximately 7,000 households) was randomly assigned to receive cash benefits. This enabled data from the cashout households to be compared with a control group receiving coupon benefits in a system where most of the caseload still received coupons. Household data were collected from approximately 600 cash and 600 coupon recipients. In the second phase, the entire county caseload is on a cashout system. This allows the administrative

cost, program participation and retailer effects of cashout to be compared under a full cashout system to data from the pre-implementation (entirely coupon) and Phase I (majority coupon) periods.

The FIP cashout demonstration is based on a matched comparison site design. Five pairs of community service offices (CSO) in the state were chosen as evaluation sites, to be representative of the overall state welfare caseload. Five sites (one in each pair chosen randomly) were designated as treatment sites and five sites (the other one in each pair) were designated as comparison sites.

In the treatment sites, AFDC-eligible applicants who applied for welfare after FIP implementation were automatically enrolled in FIP (receiving FIP benefits and cashed-out food stamp benefits included in their welfare benefit checks). Recipients who were already receiving AFDC before FIP start-up were given the option of either continuing to receive AFDC or changing to FIP (including food stamp cashout). The cashout evaluation is based on data from the group who applied for welfare after FIP implementation.

The report addresses the FIP households' response to the form of food stamp benefits, giving special attention to the impact of cashout on food expenditures and nutrient availability, as well as to participants' attitudes toward and experiences with check benefits. It focuses on the following research questions:

- Are the food expenditures of households that receive cash benefits different from those that receive coupon benefits?
- Are the relative shares of major household budget items devoted to food and nonfood categories different for cashout than for coupon households?

- Is food use, food availability and nutrient availability different for cashout than for coupon households?

- Are recipients' preferences for cash or coupons (perceived control over food spending, difficulty in budgeting food expenses, and degree of stigmatization) different for cashout than for coupon households?

- Is participation in other food assistance programs, such as WIC and commodities distribution programs, different for cashout than for coupon households?

II. DATA AND METHODOLOGY

This chapter describes the data collection, outcome variables, and analytical methods used to evaluate the effects of cashout on FSP households.

A. Data Collection

Sampling

The development of a respondent sample and the selection of respondents in treatment and nontreatment groups involved a two-stage sampling process. First, all the local welfare offices were matched on geographic location within the state and eight other criteria: rate of out-of-wedlock births, employment rate, average earnings of AFDC-R (one-parent) cases, AFDC-R caseload, ratio of AFDC-R to AFDC-E (two-parent) cases, average AFDC-R grant per case, average earnings of all workers in service and retail employment (in the country), and monthly rate of retained placements in each WEOP unit.

Pairs of sites matched on all these characteristics were randomly selected from the geographic groupings until a minimum annual caseload of 20,166 was reached. This produced five pairs of sites. Once selections were complete, each site within each pair was then assigned to an "A" or "B" group. The purpose of this assignment was to make the total caseload of the two groups as close to identical as possible. A toss of the coin then decided whether group "A" would become the treatment or comparison group of sites.

The site pairs selected for the evaluation are:

FIP Treatment Sites	Non-FIP Comparison Sites
Burien/West Seattle	King South/Federal Way
Everett/Skykomish Valley	Pierce West
Goldendale/White Salmon/ Stevenson	Shelton
Spokane North	Yakima/Yakima-Kittitas
Moses Lake/Othello	Okanogan

The quality of the impact estimates depends on how well the welfare participant population's experiences in the comparison sites represents the experiences the population in the treatment sites would have had in the absence of FIP.[4] In the best possible match, the program participants in the treatment sites would correspond to the participants in the comparison sites in all ways except participation in FIP, and any differences in outcome measures between the treatment and comparison sites could be fully attributed to FIP.

Because it is not possible to match sites exactly along all relevant dimensions, consideration must be given to whether the expected value of an outcome variable in a given impact analysis reveals any significant "site effects" after controlling for individual attributes (e.g., age, family size, race). The site-specific variables that might influence an individual's response to the FIP program include local labor market conditions, the structure of employment

4. In an evaluation where the treatment is strictly a treatment of individuals, other things equal, the best way to seek unbiased estimates of program impacts is to randomly assign individuals to treatment or comparison groups. This is because, although the groups will not strictly speaking be identical, any differences are unlikely to be correlated with the presence or absence of the treatment. The FIP evaluation was not based on random assignment because it was not politically feasible, but also because one of FIP's objectives was to change the climate in the welfare system--something that can only be done when the caseload as a whole faces the changed environment.

and wage levels, and distinctive features of the local public assistance and emp

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agencies.

As part of the FIP baseline impact analysis report (Long, Wissoker, and Jeffries, 1991), an assessment of the quality of the match between the two sets of sites prior to FIP looked at the characteristics of both the welfare caseloads and the local areas. It concluded that the treatment and comparison sites were fairly well matched with respect to caseload characteristics and aggregate variables measuring population, labor force participation rates, and unemployment rates.

In the second stage of sampling, individuals within the five pairs of sites were selected for the sample, with sample size proportional to site size. Each FIP recipient within the five treatment sites was given an equal probability of falling into the treatment sample. Each AFDC recipient within the five nontreatment sites was given an equal probability of falling into the nontreatment sample.

In the treatment sites, as noted, applicants to AFDC who applied after FIP implementation were automatically enrolled in FIP. Recipients who were already receiving AFDC before FIP start-up were given the option of either continuing to receive AFDC or converting to FIP.

An initial sample of 2,111 cases yielded a final sample of 1,199.[5] A total of 525 cases proved ineligible for the study because the recipient either was deceased, had moved out of the

5. In Washington State, the original cashout sample size was to be 1,200 households: 600 coupon households and 600 check households. Based on a coefficient of variation of 50 percent or less with a design effect of 1.4 (due to clustering in CSOs), this sample was thought to be sufficient to conduct a five percent two-tailed test of the null hypothesis of "no difference in mean food expenditures" with 80 percent power. Subsequently, the sample structure was modified to stratify by date of application, with intended sample sizes among mandatory assignment cases of 400 coupon and 400 check households. Four hundred households were sampled from long-term public assistance strata. Because of the relative homogeneity of the AFDC population in Washington State and the efficacy of scaling procedures in normalizing variances, the coefficient of variation proved to be substantially less than the maximum of 50 percent expected. This was true for the money value of food used, and for many of the other outcomes. Thus, the smaller sample size proved far more than adequate to reject the null hypothesis.

county or was no longer receiving benefits. Of the 1,586 remaining cases, 95 were unlocatable, 118 refused to participate, and 18 had a language barrier that precluded successful interviewing. The final completion rate was 75 percent.

As of October 1989, 88 percent of the caseload at treatment sites were on FIP either by choice or because they were new applicants. Washington State welfare officials indicated that some of the cases who declined to participate in FIP did so because they preferred to receive food stamp coupons instead of checks, raising the possibility of self-selection.

To avoid self-selection bias, the cashout analysis sample includes only those with mandatory treatment assignment--those who were new applicants at the FIP sites and, by design therefore, new applicants at the AFDC sites after FIP was implemented. It was anticipated that other FIP and non-FIP participants included in the sample (long-term recipients in FIP sites who chose cashout, their counterparts in FIP sites who chose to continue with coupons, and long-term recipients in AFDC sites who continued with coupons), might have differences that might bias the food use and expenditure data being analyzed. They were, thus, excluded from the analysis sample. A more complete description of these other household groups is found in Appendix C. The final analysis sample consists of 399 cashout households and 381 coupon households.

Data Collection Procedures

Data collection was conducted over a three-month period, from August through October, 1990. In-person interviews were conducted with respondents after an initial telephone call and screening visit. The initial contact was used to confirm that the food benefit recipient resided at the address, to identify the household food manager, and to introduce or re-introduce the study.

The respondent was asked to identify all persons who usually live in the household, their age, sex, and relationship to the food benefit recipient, and given short series of questions regarding food purchase patterns.

Respondents were also supplied with information regarding food use reporting, to help them keep food use records during the following seven-day period. The designated respondent for the survey interview was the household food preparer except in cases where the food preparer indicated that another household member would be better able to provide accurate information. In these cases, both the food preparer and the other respondent were asked to provide information for the survey. Interviews were scheduled for seven days later and respondents were reminded of the $20 incentive payment payable to them upon completion of the interview.

The focus of the interview was on household expenditures and food use. Information was recorded on the numbers and types of meals eaten from the household food supply by household members and guests, and the number of meals eaten away from home by each family member. For each type of food used in the household, interviewers recorded the exact type of food, its form when brought into the house (fresh, frozen or canned), the quantity brought into the house, the quantity used, the price paid and the source (purchase, WIC, gift, payment-in-kind).

The findings presented below are taken from information collected on the main questionnaire, for all but one variable. Data from the screener were used for measuring the differences in shopping patterns between the check and coupon households. Administrative data were used to edit check income and participation data collected in the main questionnaire. Sensitivity analyses between the administrative and survey data showed there to be no substantial

differences between the two data sources and thus all data were taken from the survey questionnaire.

B. Outcome Variables

This section defines the key outcome variables used in the analysis of the household survey data, beginning with household size and continuing with food use and expenditures, nutrient availability, expenditure shares, participation in other food-assistance programs and other food sources, food shopping patterns, perceived adequacy of food supply, and changed purchase patterns.

Household Size

The benefit unit used for this study, referred to throughout as "household," is the food consumption unit (FCU), defined as people living together in one home or dwelling unit who eat from the same food supply.

For analyses of income and expenditures the number of persons in the FCU is sufficient. However, measures of food use require adjustments to the FCU to correct for specific household and household member characteristics. The characteristics of concern include: differences in age, gender, pregnancy and lactating status of household members; the number of meals eaten at home by household members; and the number of meals served to guests. To capture these refinements, two additional measures of household size are used when analyzing household food use and nutrient availability: the size of FCU in adult male equivalents (AME) and the size of the FCU in equivalent nutrition units (ENU).

Household size measured in adult male equivalents (AME) adjusts actual household size for the age and sex of household members by weighting each member by his or her nutritional requirements relative to the recommended dietary recommendation for food energy for an adult male age 23 to 50. For example, in a 3-person household with a 36-year-old male, a 25-year-old pregnant female and a 9-year-old boy, the household size in AMEs is 2.78.

HOUSEHOLD SIZE IN ADULT MALE EQUIVALENTS

Household Member	Food Energy Requirements (Kilocalories)	Relative Nutrition Unit
Male, 36 years old	2,900	1.00
Pregnant Female, 25 years old	2,552	.88
Boy, 9 years old	2,610	.90
Household size in AMEs		2.78

Household size measured in equivalent nutrition units (ENU) adjusts the household size for the age and gender of household members, the proportion of meals eaten from the household food supply, and the number of meals served to guests. As with the AME measure, household size in ENUs weights each member of the household by the RDA for a specific nutrient for an adult male aged 23 to 50 years. It further weights each household member by the proportion of meals eaten at home and weights the whole household size by the number of meals served to guests. The sum of all the weights is the household size in ENUs.

The following example illustrates how household size in ENUs is calculated for the same household as used in the above example and a 52-year-old female guest using 10 percent of the household's supply.

HOUSEHOLD SIZE IN EQUIVALENT NUTRITION UNITS

Age/Sex	Proportion of Meals from Household Supply	Relative Nutrition Unit	Equivalent Nutrition Unit
Male, 36 years old	.67	1.00	.67
Pregnant Female, 25 years old	1.00	.88	.88
Boy, 9 years old	.78	.90	.70
Guest: Female, 52 years old	.10	.68	.07
Household size in ENUs			2.32

Food Use and Expenditures

Respondents were asked to provide detailed information on all food used from the household's food supply, which includes all food from the household food supply that was consumed at home, food that was taken from the home and eaten elsewhere, food that was prepared elsewhere and eaten in the home, food normally eaten by people that was eaten by pets, and food that was thrown away. Purchased food used at home includes foods purchased with cash, credit, or food stamps. Nonpurchased food used at home includes foods that are gifts, payments-in-kind, home-grown or produced, and WIC, USDA commodities or other foods obtained from food banks, pantries or churches. Household food use refers to the amount of food that is used by the household whether it be eaten, thrown away, or given to pets. Household food use, which does not differentiate between the amounts eaten by different individuals within

a household, simply measures how much food has disappeared from the household food supply within the specified time period.

To measure the quantity of food used at home, all food amounts are converted to a measure of pounds and reported per ENU per week. Many of the food use measures are reported for all food used in the household and separately for 33 food groups. The 33 food groups refer to the 31 food groups corresponding to the USDA's Thrifty Food Plan (TFP), plus one group for alcoholic beverages and another for new foods on the market that are as yet uncoded for the TFP.

The money value of food used at home is computed on the basis of a seven-day accounting of each individual food item used from the home food supply. The measure includes home-produced food and food received as a gift or payment, as well as purchased food. The money value of each reported food item is computed as the quantity used multiplied by the unit price. An imputed price is used for nonpurchased foods, which is based on the average price per pound that was paid for that food item by all other respondents reporting its purchase and use.

The money value of food used is reported in several different ways. In addition to reporting the money value of all food used at home, the value is reported separately for purchased and nonpurchased foods used at home; and for the total household, per AME and per ENU. Another measure of food use and expenditures is the share of the money value of food used at home, by food group. This is the proportion of the total money value of food used from a household's food supply that comes from each of the 33 food groups.

Nutrient Availability

Nutrient availability in this study refers to the nutrients that are present and available in the food used at home during the seven-day period for which food use data were collected--in other words, to the amount of nutrients available to be eaten, whether or not they actually were ever eaten. Thus, availability does not refer to nutrient intake, since the data collected do not reflect the amounts of food actually eaten, but only the amounts of food that were used by the household (whether eaten or thrown away). Nutrient availability for each nutrient is calculated by multiplying the nutrient content per pound of each food type by the number of pounds of each food type used by the household and summing across food types. Nutrient content is calculated for both macronutrients (food energy, protein, fats and carbohydrates) and micronutrients (vitamins, minerals and trace elements) and is reported on a per ENU basis. For analyses of nutrient outcomes, the ENU measures are specific to each nutrient. For money value outcomes, the ENUs for food energy are used.

The seven nutrients used in the analysis are those classified by the Joint Nutrition Monitoring Evaluation Committee (DHHS/USDA, 1986) as having "priority status" or warranting "more consideration" in public health monitoring either in general or specifically for AFDC participants:

Vitamin A
Vitamin C
Vitamin B6
Calcium
Iron
Folacin
Zinc

The measures of nutrient availability used in this study include the following:

- availability of food energy and protein compared to the RDA
- proportion of food energy from protein, carbohydrates, and fat
- nutrient availability per 1,000 kilocalories (nutrient density)
- micronutrient availability compared to RDA
- protein and micronutrient availability per dollar of food used at home

RDAs reflect the average intake recommended for members of specific demographic subgroups (defined by age, gender, and pregnancy and lactation status) for the intake of specific nutrients. Since RDAs are not necessarily minimum requirements, levels of availability lower than the RDA do not necessarily indicate inadequate intake. Instead, they point to a potential nutritional risk. Similarly, a level of availability greater than the RDA does not necessarily mean that all members of a household are eating adequate supplies of that nutrient. Not all of the food available to a household is eaten by members or guests of the household--some is lost, wasted, or fed to pets. In addition, eating patterns of household members may not guarantee that each person satisfies their individual nutritional requirements. For the purposes of this evaluation, availability of nutrients relative to the RDAs are used to make relative comparisons between check and coupon households.

Measures of nutrient density and nutrient availability per dollar value of food used at home are used to estimate differences in the types and nutritional value of food used between coupon and cashout households.

Food and Nonfood Expenditure Shares

Because the form of the food stamp benefit might have a greater effect on the mix as opposed to the total amount of household expenditures on all goods and services, outcome measures are reported as expenditure shares. An expenditure share is the proportion of reported expenditures allocated to a specific budget category (e.g., average expenditures on clothing divided by the average total dollar amount of all of its reported expenditures). Expenditure shares are presented for the following categories:

All food (used at home and away from home)
Housing
Utilities
Medical
Transportation
Clothing
Education
Dependent care
Recreation
Personal items

Measures of Participation in Other Food Assistance Programs and Other Sources of Food

Households that receive their food stamp benefits in the form of cash and participate in other food assistance programs may feel at liberty to spend some of their food stamp cash on nonfood items. However, if they spend their money on nonfood items they may be forced to obtain adequate food supplies by either growing or producing their own food or getting food from other people or community groups. Accordingly, the percentage of households receiving food, and (when possible) the dollar value of that food is measured from the following program and nonprogram sources:

Special Supplemental Food Program for Women, Infants, and Children (WIC)
National School Lunch Program
School Breakfast Program
Home-produced food
Food received as a gift or payment

Food Shopping Patterns

In order to describe the effects of cashout on household shopping patterns, the mean values of responses to questions on the usual frequency of shopping and usual food expenditure by type of food store--supermarket, neighborhood grocery store, convenience store, and specialty store--are reported as outcome variables.

Perceived Adequacy of the Household Food Supply

The household survey includes several questions on the adequacy of the household food supply during the past month (i.e., the month prior to the interview). The outcome measures derived from this sequence of questions include:

- Perceived adequacy of food eaten.
- Whether there were any, and if so how many days the household was without food, money, or food stamps to buy food.
- Whether any members of the household skipped meals because the household did not have enough food, money, or food stamps to buy food; the number of days when meals were skipped. (This question was asked of the past week as well as the past month.)
- Whether the household took any of the following actions to obtain food:
  - Borrow food from friends or relatives or eat at their homes
  - Take money out of savings to buy food
  - Borrow money to buy food

- Buy food on credit
- Take on additional work in order to pay for food
- Buy or serve less expensive meals
- Serve smaller meals
- Eat one or more meals at a church or soup kitchen
- Get food from a food bank, food pantry, or church
- Apply for WIC benefits
- Other action(s) to obtain food

Changes in the Quality and Quantity of Purchased Food

For households that converted from coupons to checks, the household survey includes very general questions on changes in the quantity and quality of purchased food. In addition, former coupon recipients were asked if there had been changes in how long their money to buy food lasts each month. On the basis of the answers to these questions, the following outcome variables were constructed:

Change in the amount of purchased food
- More
- About the same
- Less

Change in the quality of purchased food
- Better
- About the same
- Not as good

Change in how long money to buy food lasts
- It lasts longer
- No change
- It gets spent earlier

C. Analysis Methods

The primary tool used to identify the impact of cash-out is a two-sample comparison of means, which computes the simple difference between the mean outcome values for check and coupon households. Since sample means tend to vary based on the households surveyed, differences in sample means will probably not be exactly zero even in the absence of a real effect. Therefore, some method must be applied to determine whether the difference is large enough for analysts to be confident that it is not simply random. This determination is made by dividing the difference between the sample means by its expected standard deviation to produce a t-statistic. The t-statistic is compared to numbers in a standard statistical table to determine its relative level of significance. We consider three levels of significance--the .10 level, the .05 level and the .01 level--using a two-tailed test criterion.

For a two-sample comparison of the means test to be a valid test for the Washington State cash-out evaluation, the differences in check and coupon average outcomes must be a result of the different forms of benefit that the two samples receive, and not a result of some other sample differences. If the check and coupon samples differ greatly in other characteristics thought to influence household food expenditures and food use ("auxiliary differences"), a simple comparison of means cannot be used to estimate the difference in food use caused by the difference in food benefit form. To control for other sample and population differences that might exist between check and coupon households, regression adjustments were also applied to selected evaluation outcomes. Regression adjustments do not necessarily control for all sample differences, but generally are effective if the specified control variables are able to predict the

outcome variable. Regression adjustments made no difference to the basic conclusions, and are therefore not shown in the text. (They are reported in Appendix A.)

Unadjusted and regression-adjusted means produce similar results under two conditions:

(1) When the average household characteristics that influence the outcome variable in the two samples are identical, the simple difference in means will be identical to the estimated regression coefficient.

(2) When household characteristics differ between the two samples but the sample characteristics that differ do not influence the outcome variable, on average the estimated impact of cashout in the two approaches will be the same.

Both conditions are present in the FIP cashout case.

The household characteristics (outside of the food benefit form) that strongly influence food use are very similar for the two samples. Household characteristics that differ between the two samples only weakly influence food use.

III. HOUSEHOLD DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS

The basic tool for evaluating the consequences of cashout on AFDC families in Washington State, as noted, is a comparison of sample averages for the 399 check households and the 381 coupon households in the interview sample. The validity of such comparisons rests on the similarity of the two samples in all factors that may influence household food use outside benefit form.

A. Household Characteristics

With respect to the household size, check and coupon samples are similar in all three of the household size scales used in the evaluation: number of persons, number of adult male equivalents (AME), and number of equivalent nutritional units (ENU) (Table III.1).

A statistically significant difference between the two samples is the greater predominance of female household heads among the coupon recipient sample. Household respondents were female in 82 percent of the sampled check households and 90 percent of the sampled coupon households. This difference is related directly to the difference in household composition: single parent households make up 81 percent of the check sample versus 85 percent of the coupon households. At least a partial explanation for these differences in family composition is the higher application approval rates for two-parent units in FIP than in AFDC.

With respect to race and ethnicity, check respondents are significantly more likely to be white or asian, while coupon respondents are significantly more likely to be black or Hispanic. The substantive significance of these differences is not very great, however, since the vast

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Table III.1 HOUSEHOLD DEMOGRAPHIC CHARACTERISTICS

	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
SIZE OF FOOD CONSUMPTION UNIT (FCU)					
Number of Persons	3.19	3.28	-0.09	-2.74	-0.94
Number of Equivalent Nutritional Units (ENUs)	2.84	2.95	-0.11	-3.73	-1.02
Number of Adult Male Equivalents (AMEs)	2.17	2.19	-0.02	-0.91	-0.32
COMPOSITION OF FCU (percent)					
Contains Elderly	0.25	2.36	-2.11	-89.39%	-2.58 ***
Contains Children	98.50	97.90	0.60	0.61	0.62
Single Parent	80.70	85.30	-4.60	-5.39	-1.71 *
Two Parents	19.30	14.70	4.60	31.3	1.71 *
CHARACTERISTICS OF MAIN FOOD PREPARER (percent)					
Female	82.21	89.76	-7.56	-8.42	-3.06 ***
Married	27.07	21.52	5.55	25.77	1.81 *
Employed	16.79	16.80	-0.01	-0.04	-0.00
Less than 35 Yrs Old	75.94	83.99	-8.05	-9.58	-2.82 **
Education					
Elementary School not completed	4.01	4.99	-0.98	-19.59	-0.66
Elementray School only completed	22.81	28.35	-5.54	-19.54	-1.77 *
High School completed	73.18	66.67	6.52	9.77	1.98 **
Race/Ethnic group					
Asian	5.01	1.31	3.70	281.95	2.98 ***
Hispanic	6.02	10.24	-4.22	-41.24	-2.15 **
Black	5.01	10.5	-5.49	-52.26	-2.86 ***
White	79.7	72.7	7.00	9.62	2.30 **
Other	4.26	5.25	-0.99	-18.83	-0.65
Sample Size	399	381			

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

majority of both samples is white (80 percent of the check sample and 76 percent of the coupon sample). In Fiscal Year 1989, for example, 73 percent of Washington State AFDC families were headed by a white parent, compared to only 38 percent for the United States.[6] Thus, the Washington State cashout comparisons are based on a population more white and more homogeneous than the typical U.S. welfare recipient population.

Education level also differs between check and coupon households. Food managers in check households were significantly more educated than their counterparts in coupon households. Among the check households, 73 percent of the food managers are high school graduates, compared to 67 percent of coupon household food managers. The importance of this difference should not be overestimated either, because both these percentages are very high for the U.S. National figures on educational attainment indicate that 52 percent of adult recipients of AFDC are high school graduates. Finally, the two samples differ by age. In coupon households, food

[redacted]

managers under 35 made up 84 percent of the sample. In check households they made up 76 percent of the sample. Only 1 out of 399 check households contains an adult over the age of 60, compared to 9 out of 381 coupon households.

As Appendix A shows, these sample differences do not affect the findings.

B. Income Characteristics

The two samples are well matched in average income (Table III.2). Cash incomes not including food checks differ by $40 a month, a difference that is not statistically significant. The two samples differ significantly in the amount of the AFDC benefit and the amount of food stamp benefit. The average amount of AFDC benefits per household in the check sample is $398 per month, compared with $362 for the coupon sample, a difference that is significant at the .01 level. Likewise, the average amount of food benefits for the check sample is $193, and for the coupon sample is $176, a difference that is also significant at the .01 level. Not surprisingly, given this difference, check households have lower earnings than coupon households, though the difference is not statistically significant. Total household income, including all benefits, differs by only $23 between the two samples, a difference that is not statistically significant. The overall similarity between the two samples on measures of family economic resources is underscored by the ratio of food benefits to total cash and noncash income, 29 percent for both check and coupon households.

In summary, the coupon and check samples are well matched in factors thought to influence food use, nutrient availability and food expenditure. Especially on economic and demographic factors, for which AFDC and food stamp eligibility and benefit determination serves to enforce homogeneous unit characteristics, the differences between the check and coupon samples are small. Fortunately, these are the characteristics that have been found to be the major influences on food use behavior. As noted, and detailed in Appendix A, controlling for sample differences does not appreciably affect estimates of differences among the two groups on the major outcome variables.

Table III.2 HOUSEHOLD INCOME

	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
Cash Income, not including food checks ($ per month)	646.38	687.22	-40.84	-5.94	-0.94
Amount of FCU Food Benefits ($ per month)	193.49	175.71	17.79	10.12	3.12 ***
Total Cash and Food Benefit Income ($ per month)	839.88	862.9	-23.05	-2.67	-0.52
Ratio of Food Benefit to Sum of Food Benefit and Total Cash Income (percent)	28.83	29.29	-0.47	-1.60	-0.30
Amount of AFDC Benefits ($ per month)	398.5	362.15	36.35	10.04	2.44 **
Households Receiving Earned Income (percent)	23.31	27.30	-3.99	-14.61	-1.28
Amount of Earned Income ($ per month) [a]	176.31	240.57	-64.26	-26.71	-1.64
Households Paying Rent (percent)	94.99	95.01	-0.03	-0.03	-0.02
Amount of Rent Paid [b] ($ per month)	271.93	262.7	9.22	3.51	0.93
Sample Size	399	381			

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

[a] For households reporting earned income

[b] For households paying rent

IV. THE EFFECTS OF CASHOUT ON HOUSEHOLD FOOD USE, NUTRIENT AVAILABILITY, AND PERCEIVED ADEQUACY

One objective of the cashout evaluation is to estimate the effect of cashout on recipients' food use and availability. Respondents were asked about the types, amounts, sources and prices of food they used in the week prior to their interview, and about their perceptions of the adequacy of their food supply.

This chapter describes differences between check and coupon households in food use, nutrient availability, and perceived food adequacy for food used at home. (As reported in Chapter IV, there is no significant difference between check and coupon households in the use of food away from home. For both groups, more than 90 percent of the food used by the average household was used at home.) Mean values for outcome variables are presented separately for check and coupon households, along with the statistical significance of observed differences. The remaining sections of this chapter are organized as follows: Section B presents findings related to the money value of food used at home; Section C describes the nutrient availability of food used at home; and, Section D discusses the perceptions of responding households about their food adequacy.

A. Money Value of Food Used at Home

This section, based on data from the household survey, presents differences between the two groups in the value and types of the purchased and nonpurchased foods used at home. The monetary value of all purchased food is described first, followed by a description of the quantity, types and value of both purchased and nonpurchased foods.

The Money Value of Purchased and Nonpurchased Food Used at Home

Three measures are used to describe the money value of all food used at home. The first is the value of food used per household, which is the total money value of all food, both purchased and nonpurchased, used from the household's food supply. The second is the value of food used per adult male equivalent (AME), which adjusts for household size and composition. The third is the value of food used per equivalent nutrition unit (ENU), which adjusts for the size and composition of a household and for the proportion of meals eaten away from home.

Money Value per Household. The money value of purchased food used at home is significantly lower for check than for coupon households and the value of nonpurchased food higher (Table IV.1). Since the difference in the value of purchased food per household is greater than the difference in the value of nonpurchased food, the value of all food used at home is lower for check than for coupon households ($65.34 versus $72.77, significant at the .01 level). The difference in the money value of food used at home ($50.80 check versus $60.54 coupon) is also significant at the .01 level. The difference in the money value of nonpurchased food ($14.55 check versus $12.23 coupon) was not statistically significant.

Money Value per Adult Male Equivalent (AME). Check households also use less food per AME than coupon households, as measured by dollar value ($32.60 versus $36.49, a difference that is significant at the .01 level). Again, the primary source of the difference is purchased food. The money value per AME in check households for purchased food is $24.71 versus $29.31 in coupon households, also significant at the .01 level. The difference in nonpurchased foods between the two groups is less than one dollar a week and is not significant.

Table IV.1 MONEY VALUE OF FOOD USED WEEKLY AT HOME

Measure of Weekly Food Use	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
FOOD USED AT HOME					
Purchased Food	50.80	60.54	-9.74	-16.10	-4.26 ***
Nonpurchased Food	14.55	12.23	2.32	18.93	1.59
Total	65.34	72.77	-7.43	-10.21	-2.84 ***
FOOD USED AT HOME PER ENU					
Purchased Food	28.29	33.42	-5.13	-15.35	-4.55 ***
Nonpurchased Food	9.00	8.98	0.02	0.23	0.02
Total	37.29	42.40	-5.11	-12.05	-2.87 ***
FOOD USED AT HOME PER AME					
Purchased Food	24.71	29.31	-4.60	-15.70	-4.96 ***
Nonpurchased Food	7.90	7.18	0.72	10.00	0.76
Total	32.60	36.49	-3.88	-10.65	-3.00 ***
Sample Size	399	381			

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

The Money Value per Equivalent Nutrition Unit (ENU). Consistent with the findings for all households and for AMEs, there is a highly significant difference in value per ENU between the two groups. Check households have a lower money value for food used per ENU than coupon households (Table IV.1). The average value per ENU for foods purchased by check households is $28.29 versus $33.42 for coupon households, a 15 percent difference that is significant at the .01 level. The value of all food used at home per ENU is also lower for check than for coupon households, a 12 percent reduction that is significant at the .01 level. The difference in the value of nonpurchased food is not statistically significant. A comparison between the mean values presented above and the median values presented in Appendix D indicates that the reduction in money value of food used per ENU is not disproportionately distributed among the lower half of the households.

Value of Food Used by Food Group

To determine whether the lower value of food use is associated with any particular food groups, the analysis uses the 31 food groups defined by the U.S. Department of Agriculture's Thrifty Food Plan (TFP),[7] plus a group for alcoholic beverages and a group for miscellaneous foods, expressed on a per-ENU basis. Miscellaneous foods, as noted, are new foods that have not yet been assigned to a TFP food group.

Quantity of Food Used per Week per ENU. Check households use smaller quantities of food at home per ENU than coupon households for 23 out of the 33 food groups analyzed

7. The thrifty food plan is the least costly of the USDA's four food plans and is the plan from which food stamp allotments are based.

(Table IV.2), although the differences are significant at a .10 level or better for only ten food groups. As indicated in the table, the differences occur among food groups in each of the five food categories--vegetables and fruits, grain products, milk and milk products, meat and meat alternatives, and other foods. The statistically significant decreases are for the following food groups:

- "other" vegetables (not potatoes or high nutrient vegetables)
- condiments and mixtures
- high fiber flour, meal, rice and pasta
- bakery products (not bread)
- cheese
- lower-cost or variety meat
- mixtures
- sugar and sweets
- seasonings
- soft drinks, punches and ades

Of the nine subgroups listed above, four are of important nutritional value: "other" vegetables; high fiber flour, meal, rice and pasta; cheese; and lower cost or variety meats. For eight food groups check households use more than coupon households, but none of these differences is statistically significant. The lower overall amount of food used is not accompanied by different food use patterns among the major food groups. For example, households are not using more grains and less meats.

Money Value of Food Used per Week per ENU by Food Group. Comparing the money value of food used per week per ENU for each food group provides additional support for the finding that household use patterns among food types are similar. For almost three-fourths of the 33 food groups (73%), the money value of the food used at home is lower for

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Table IV.2 QUANTITY OF FOOD USED AT HOME BY FOOD GROUP (per ENU)

Food Group	Mean		Difference			
	Check	Coupon	Absolute	Percent	T-statistic	
VEGETABLES, FRUIT						
Potatoes	1.40	1.50	-0.10	-6.45	-0.84	
High Nutrient Vegetables	1.65	1.58	0.07	4.33	0.46	
Other Vegetables	2.29	2.58	-0.28	-11.00	-1.78	*
Condiments, Mixtures	0.38	0.62	-0.24	-38.37	-3.10	***
Vit. C-Rich Fruit	1.14	1.26	-0.12	-9.34	-0.71	
Other Fruit	3.67	3.87	-0.19	-5.03	-0.63	
GRAIN PRODUCTS						
Whole Grain/Hi Fiber Breakfast Cereal	0.46	0.42	0.04	8.95	0.86	
Other Breakfast Cereals	0.34	0.40	-0.07	-16.41	-1.50	
Higher Fiber Flour, Meal, Rice, Pasta	0.09	0.13	-0.05	-36.24	-1.65	*
Other Flour, Meal, Rice, Pasta	1.31	1.22	0.09	7.22	0.70	
High Fiber Bread	0.38	0.34	0.05	13.66	1.07	
Other Bread	1.05	1.15	-0.10	-8.66	-1.07	
Bakery Products	0.65	0.85	-0.20	-23.37	-2.96	***
Grain Mixtures	0.59	0.69	-0.09	-13.75	-1.59	
MILK, CHEESE, CREAM						
Milk, Yogurt	10.49	10.92	-0.42	-3.89	-0.63	
Cheese	0.49	0.60	-0.11	-17.87	-2.10	**
Cream, Mixtures Mostly Milk	0.64	0.71	-0.07	-9.33	-0.94	
MEAT AND ALTERNATIVES						
Low-Cost or Variety Meat	1.33	1.61	-0.28	-17.39	-2.75	***
High-Cost or Variety Meats	0.93	0.85	0.07	8.64	0.80	
Poultry	1.23	1.33	-0.10	-7.47	-0.80	
Fish, Shellfish	0.60	0.50	0.10	19.45	1.07	
Bacon, Sausage, Lunch Meat	0.79	0.89	-0.10	-11.74	-1.53	
Eggs	0.71	0.74	-0.02	-3.35	-0.54	
Dry Beans, Peas, Lentils	0.24	0.25	-0.01	-2.24	-0.14	
Mixtures	0.55	0.70	-0.15	-21.64	-2.03	**
Nuts, Peanut Butter	0.22	0.22	0.00	0.25	0.02	
OTHER FOODS						
Fats, Oils	0.85	0.90	-0.04	-4.73	-0.71	
Sugar, Sweets	1.11	1.27	-0.16	-12.95	-1.92	*
Seasonings	0.01	0.00	0.00	0.00	2.34	**
Soft Drinks, Punches, Ades	3.88	5.29	-1.41	-26.71	-3.26	***
Coffee, Tea	0.15	0.13	0.03	20.20	0.74	
Alcohol	0.63	0.59	0.04	7.17	0.21	
Miscellaneous New Foods	0.01	0.01	0.00	0.53	0.01	
TOTAL, ALL FOOD	40.27	44.11	-3.83	-8.69	-2.49	**
Sample Size	399	381				

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

check than for coupon households (Table IV.3). Of these groups, the difference between the check and coupon households is significant for nine groups at the .10 level or better. The value of money spent on the other thirteen food groups is higher for check than for coupon families, but none of these differences is statistically significant.

Percentage of Money Value of Food Used per ENU. The proportion of the total money value spent on each food group (per ENU within both household groups) yields further evidence that the distribution of food used across food groups is similar for check and coupon households (Table IV.4). The number of food groups for which the proportion of the money value of all foods used is higher for check households than for coupon households is approximately equal to the number of groups for which it is smaller. Four of the differences are statistically significant. Check households use more (in value) of high nutrient vegetables and high fiber bread (statistically significant at the .01 and .10 levels, respectively) and less of condiments and soft drinks (also statistically significant at the .01 and .10 levels, respectively).

B. Nutrient Availability of Food Used at Home

When there is more food available to a household, one might expect to see higher nutrient availability also. For the purposes of this study, nutrient availability refers to nutrients that are present and available in the food used at home during a seven-day period.

Our discussion of nutrient availability begins with macronutrients (energy, protein, fats and carbohydrates) and continues with micronutrients (vitamins and minerals). Macronutrients are considered to be the principal sources of food energy, while micronutrients are essential for proper growth and maintenance of the human body. The availability of macronutrients is

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Table IV.3 MONEY VALUE OF FOOD USED WEEKLY AT HOME BY FOOD GROUP (per EN

Food Group	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
VEGETABLES, FRUIT					
Potatoes	0.55	0.61	-0.06	-9.38	-1.10
High Nutrient Vegetables	1.29	1.18	-0.12	-10.08	1.10
Other Vegetables	1.70	1.97	-0.27	-13.66	-2.07 **
Condiments, Mixtures	0.58	0.93	-0.35	-37.24	-2.88 ***
Vit. C-Rich Fruit	0.79	0.86	-0.08	-8.93	-0.69
Other Fruit	2.49	2.79	-0.30	-10.63	-1.40
GRAIN PRODUCTS					
Whole Grain/Hi Fiber Breakfast Cereal	1.00	0.95	-0.05	-5.21	0.53
Other Breakfast Cereals	0.94	1.09	-0.15	-14.08	-1.38
Higher Fiber Flour, Meal, Rice, Pasta	0.14	0.18	-0.04	-20.82	-1.02
Other Flour, Meal, Rice, Pasta	1.00	1.12	-0.12	7.22	-1.22
High Fiber Bread	0.27	0.24	-0.04	13.66	1.08
Other Bread	0.73	0.83	-0.10		
Bakery Products	1.49	1.74	-0.25	-8.66	-1.30
Grain Mixtures	0.68	0.83	-0.15	-23.37	-1.84 *
MILK, CHEESE, CREAM					
Milk, Yogurt	5.84	7.26	-1.42	-3.89	-1.46
Cheese	1.17	1.41	-0.24	-17.87	-1.88 *
Cream, Mixtures Mostly Milk	0.69	0.76	-0.08	-9.33	-1.04
MEAT AND ALTERNATIVES					
Low-Cost or Variety Meat	2.19	2.61	-0.42	-17.39	-2.55 **
High-Cost or Variety Meats	2.11	1.98	0.13	8.64	0.64
Poultry	1.52	1.86	-0.34	-7.47	-2.12 **
Fish, Shellfish	1.37	1.27	0.11	19.45	0.43
Bacon, Sausage, Lunch Meat	1.49	1.66	-0.17	-11.74	-1.35
Eggs	0.47	0.50	-0.02	-3.35	-0.72
Dry Beans, Peas, Lentils	0.19	0.20	-0.01	-2.24	-0.40
Mixtures	1.46	1.80	-0.33	-21.64	-1.22
Nuts, Peanut Butter	0.43	0.47	-0.04	0.25	0.53
OTHER FOODS					
Fats, Oils	0.86	0.89	-0.03	-4.73	-0.47
Sugar, Sweets	1.18	1.37	-0.18	-12.95	-1.62
Seasonings	0.02	0.00	0.01	0.00	0.00
Soft Drinks, Punches, Ades	1.71	2.25	-0.54	-26.71	-2.86 **
Coffee, Tea	0.44	0.42	0.03	20.20	0.36
Alcohol	0.47	0.38	0.09	7.17	0.73
Miscellaneous New Foods	0.02	0.02	0.00	-0.53	0.43
TOTAL, ALL FOOD	37.30	42.40			
Sample Size	399	381			

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

Table IV.4 SHARE OF MONEY VALUE OF FOOD USED WEEKLY AT HOME (proportion)

Food Group	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-Statistic
VEGETABLES, FRUIT					
Potatoes	1.65	1.50	0.14	9.45	1.11
High Nutrient Vegetables	3.60	2.86	0.74	25.76	2.95 ***
Other Vegetables	4.76	4.80	-0.04	-0.80	-0.15
Condiments, Mixtures	1.57	1.99	-0.42	-21.22	-2.73 ***
Vit. C-Rich Fruit	2.20	2.04	0.16	8.04	0.70
Other Fruit	6.58	6.60	-0.01	-0.20	-0.03
GRAIN PRODUCTS					
Whole Grain/Hi Fiber Breakfast Cereal	2.92	2.50	0.42	16.62	1.64 *
Other Breakfast Cereals	2.52	2.68	-0.16	-5.89	-0.64
Higher Fiber Flour, Meal, Rice, Pasta	0.36	0.44	-0.08	-18.25	-0.93
Other Flour, Meal, Rice, Pasta	2.96	2.79	0.16	5.91	0.73
High Fiber Bread	0.82	0.63	0.19	29.38	1.79 *
Other Bread	2.13	2.05	0.08	3.85	0.52
Bakery Products	3.82	4.07	-0.25	6.02	-0.76
Grain Mixtures	2.08	2.10	-0.02	1.13	-0.11
MILK, CHEESE, CREAM					
Milk, Yogurt	13.15	13.76	0.61	4.45	-0.61
Cheese	3.26	3.56	0.30	8.37	-1.02
Cream, Mixtures Mostly Milk	1.87	1.91	0.04	2.31	-0.25
MEAT AND ALTERNATIVES					
Low-Cost or Variety Meat	6.56	6.87	-0.31	-4.49	-0.68
High-Cost or Variety Meats	5.67	4.97	0.71	14.26	1.44
Poultry	4.35	4.48	-0.13	-2.85	-0.34
Fish, Shellfish	3.06	2.99	0.07	2.46	0.17
Bacon, Sausage, Lunch Meat	4.14	4.24	-0.09	-2.19	-0.31
Eggs	1.49	1.34	0.15	11.22	1.39
Dry Beans, Peas, Lentils	0.52	0.53	-0.00	-0.59	-0.04
Mixtures	3.82	4.19	-0.37	-8.82	-0.76
Nuts, Peanut Butter	1.29	1.10	0.19	16.92	1.36
OTHER FOODS					
Fats, Oils	2.46	2.30	0.16	7.06	1.00
Sugar, Sweets	3.27	3.42	-0.15	-4.42	-0.67
Seasonings	0.04	0.00	0.04	0.00	0.00
Soft Drinks, Punches, Ades	4.57	5.25	-0.68	-12.94	-1.85 **
Coffee, Tea	1.33	1.11	0.22	19.70	1.32
Alcohol	1.10	0.86	0.23	27.50	0.88
Miscellaneous New Foods	0.07	0.06	0.01	12.21	0.21
TOTAL, ALL FOOD	100	100			
Sample Size	399	381			

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

measured by comparing the proportions used per ENU to the available RDAs and by comparing the proportions of energy from the protein, fat and carbohydrate available to the household with the recommended values. The discussion on micronutrients presents availability in four ways: per 1000 calories, per ENU, compared to the appropriate RDA, and per money value.

To briefly summarize the findings: check households use less of many nutrients than coupon households. They use less food, and have less energy, protein and other key nutrients available in general. However, the foods that are available in the check households are as nutrient dense as foods available in the coupon households.

Macronutrient Availability

A fundamental measure of nutrient availability is caloric or food energy availability. Inadequate food energy puts a household at risk of undernutrition. To measure the adequacy of the available food energy, data from the household survey on food energy per ENU are compared to the RDA for an adult male. Similarly, the availability of protein is compared to the established RDA. Since RDAs have not been established for the other two macronutrients, fats and carbohydrates, availability of these macronutrients is measured as a proportion of the available food energy. Standards for such comparisons have been developed by the Food and Nutrition Board's Committee on Diet and Health and Subcommittee on the Tenth Edition of the RDA's (National Research Council, 1989a and b). The Board recommends that no more than 30 percent of food energy be provided by fat and that more than 50 percent be provided by carbohydrates.

Comparison to RDAs. Check households have less food energy and protein available than coupon households, although on average both groups have more available than the RDA

(Table IV.5). The mean availability of food energy per ENU is 132 percent of the RDA for check households and 144 percent for coupon households (a difference significant at the .05 level). Most households (69 percent of check households and 75 percent of coupon households) use food that provides 100 percent or more of the RDA for energy, compared to 79 percent of the total population (DHHS/USDA, 1986). But 25 to 30 percent of check or coupon households, therefore, do not have food available that meets the RDA for food energy.

The mean availability of protein per ENU averages 243 percent of the RDA for check households and 265 percent for coupon households (a difference that is significant at the .05 level). Despite the different levels in availability of protein between check and coupon households, there is no difference in the proportion of each group equal to or exceeding the RDA (98% of each group).[8] This proportion is the same as the proportion of households in the total population who meet or exceed the RDA for protein (DHHS/USDA, 1986).

Proportion of Food Energy. The proportions of food energy available from protein, fat and carbohydrate used in the home are practically identical for the two household types, despite the overall decrease in energy availability. In both groups, 14 percent of the food energy comes from protein and 40 percent from fat. The proportion of food energy from carbohydrate is 47 percent for the check group and 46 percent for the coupon group. These proportions are similar to nationwide data for 1979 and 1980, which indicate that protein contributed approximately 17 percent of food energy in the diets of low-income Americans, fat 39 percent, and carbohydrates 44 percent (USDA/Human Nutrition Information Service, 1982).

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8. A comparison between the mean values presented above and the median values presented in Appendix D indicates that the reduction in food energy and protein available per ENU is not disproportionately distributed among the lower half of the households.

Table IV.5 MACRONUTRIENT AVAILABILITY OF FOOD USED WEEKLY AT HOME

	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
FOOD ENERGY					
Percent of RDA (per ENU)	132.0	144.0	-11.98	-8.32	-2.45 **
Households Who Equal or Exceed RDA (%)	69.42	75.33	-5.90	-7.84	-1.85 *
Availability (kcal per $)	770.5	738.4	32.02	4.34	2.16 **
PROTEIN					
Percent of RDA (per ENU)	243.19	265.13	-21.93	-8.27	-2.46 **
Households Who Equal or Exceed RDA (%)	97.99	97.64	0.36	0.37	0.34
Availability (gms per $)	26.66	25.41	1.24	4.89	2.21 **
Availability (gms per 1000 kcal)	35.12	35.14	-0.02	-0.05	-0.03
Percent of Food Energy from Protein	14.05	14.06	-0.01	-0.05	-0.03
Percent of Food Energy from Fat	39.64	39.89	-0.24	-0.61	-0.45
Percent of Food Energy from Carbohydrate	46.65	46.40	0.25	0.55	0.41

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

Micronutrient Availability

The seven micronutrients selected as outcome measures for this evaluation are: Vitamin A, Vitamin C, Vitamin B6, Folic Acid, Calcium, Iron and Zinc. Each of these nutrients has an established RDA and has been classified by the Joint Nutrition Monitoring Evaluation Committee as being either a current or potential public health issue (DHHS/USDA, 1986).

Availability per 1000 Kcal (Nutrient Density). The first measure of nutrient availability is a test of nutrient density. Nutrient density refers to the amount of a nutrient present per 1000 kilocalories of food. The nutrient density of the food used is the same for check as for coupon households (Table IV.6) with the single exception of zinc. Zinc, a nutrient most often found in meats and whole grains, is significantly lower for check households (at the .10 level).

Availability per ENU. Although the nutrient densities of the food available in check households are approximately equal to that in coupon households, nutrient availability per ENU (expressed as a percentage of the RDA) is lower for those receiving checks than those receiving coupons for each of the seven micronutrients (Table IV.6), significantly so (at the .10 level or better) for five of the seven: vitamin A, vitamin B6, folate, calcium and zinc. Of these five nutrients, two (calcium and folic acid) are lower by approximately the same proportion as energy (8 percent), one (zinc) by 10 percent, and the two others (vitamins A and B6) by about 7 percent. Once again, even though the check households have lower nutrient availability per ENU, the average levels of availability are substantially above the RDAs, ranging from 116 percent to 239 percent of the RDA depending on the nutrient.

Comparison to RDAs. Nutrient availability per ENU is less likely to exceed the RDA for check than for coupon households. The proportion of households for which the availability

Table IV.6 NUTRIENT AVAILABILITY OF FOOD USED WEEKLY AT HOME

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	Mean		Difference			
	Check	Coupon	Absolute	Percent	T-statistic	
VITAMIN A						
Availability (µgRE per 1000 kcal)	482.4	480.8	1.63	0.3	0.10	
% of RDA (per ENU)	179.3	193.3	-13.99	-7.2	-1.68	*
% for which Vit. A Equals or Exceeds RDA	78.7	83.73	-5.03	-6.01	-1.8	*
Availability (µgRE per $)	356.3	340.2	16.05	4.7	1.46	
VITAMIN C						
Availability (mg per 1000 kcal)	49.2	48.1	1.04	2.2	0.49	
% of RDA (per ENU)	239.7	255.6	-15.9	-6.2	-1.20	
% for which Vit. C Equals or Exceeds RDA	82.71	88.19	-5.48	-6.22	-2.18	**
Availability (mg per $)	36.0	33.0	2.95	8.9	2.19	**
VITAMIN B6						
Availability (mg per 1000 kcal)	0.8	0.8	0.1	0.9	0.36	
% of RDA (per ENU)	152.4	163.0	-10.54	-6.5	-1.88	*
% for which Vit. B6 Equals or Exceeds RDA	76.94	79.53	-2.59	-3.25	-0.87	
Availability (mg per $)	0.6	0.6	0.04	6.0	1.95	*
FOLATE						
Availability (µg per 1000 kcal)	118.6	117.9	0.7	0.6	0.18	
% of RDA (per ENU)	227.6	246.9	-19.26	-7.8	-1.8	*
% for which Folate Equals or Exceeds RDA	90.98	91.34	-0.36	-0.40	-1.86	*
Availability (µg per $)	88.4	83.9	4.45	5.3	1.62	
CALCIUM						
Availability (µg per 1000 kcal)	444.9	456.0	-11.11	-2.4	-0.84	
% of RDA (per ENU)	124.4	135.3	-10.96	-8.1	-2.02	**
% for which Calcium Equals or Exceeds RDA	58.9	65.35	-6.46	-9.88	-1.86	*
Availability (µg per $)	329.1	322.3	6.81	2.1	0.75	
IRON						
Availability (µg per 1000 kcal)	8.3	8.0	0.3	3.9	0.95	
% of RDA (per ENU)	169.2	177.8	-8.6	-4.8	-0.82	
% for which Iron Equals or Exceeds RDA	75.69	76.64	-0.95	-1.24	-0.31	
Availability (µg per $)	6.1	5.6	0.5	8.9	2.36	**

of each nutrient per ENU is equal to or exceeds the RDA is lower for all nutrients in check households, with four of the differences statistically significant at the .10 level or better. The largest differences are for zinc and calcium. The proportion of check households, compared to coupon households, with availability equal to or exceeding the RDA for zinc is 12 percent lower (54 percent versus 62 percent for coupon households), 10 percent lower for calcium (59 percent versus 66 percent for coupon households), and 6 percent lower for vitamins A and C. Comparisons to the nutrient availability of the total population indicate that a lower percent of check households have availability meeting or exceeding the RDAs for vitamin A (4 percent less), vitamin C (11 percent less), calcium (11 percent less) and iron (10 percent less). Among coupon households the trend is similar but less dramatic. Four percent fewer coupon households than households in the total population have availability that meets or exceeds the RDA for vitamin C, 5 percent fewer for calcium and 9 percent fewer for iron. However, one percent more of coupon household than total population households have availability meeting or exceeding the RDA for vitamin A and 8 percent more check households and 11 percent more coupon households have vitamin B6 available in amounts meeting or exceeding the RDA (DHHS/USDA, 1986). Since the values used above for the total population include people who are below poverty and therefore might be receiving food stamps, it can be assumed that comparisons limited to the population above the poverty line would indicate even greater differences.

Availability per Money Value. On the nutrient availability per dollar measure, check households have consistently higher levels. Out of the seven micronutrients evaluated, there is more iron, vitamin B6 and vitamin C available per dollar available to check households,

differences that are significant at the .10 level or better (Table IV.6). Protein per dollar is also more available, significant at the .05 level.

C. Perceptions of Food Adequacy

To evaluate recipients perceptions about the adequacy of their food supply, respondents were asked about the amount and types of foods they had available in the past month:

- Which of these statements best describes the food eaten in your household in the last month: enough of the kinds of food we want to eat; enough but not always the kinds of food we want to eat; sometimes not enough to eat; or often not enough to eat.

- In the last month were there days when the household had no food, money or food stamps to buy food and if so, on how many days did this happen?

- In the last month did anyone in your household skip any meals because there wasn't enough food, money, or food stamps to buy food? On how many days did this happen in the last month? On how many days did this happen in the last seven days?

In addition to these questions, respondents were asked about actions they took in the past month to procure food supplies and about their participation in other food assistance programs.

Perceptions of Adequacy

The majority of recipients reported having enough food in the past month (Table IV.7), with no evidence of a difference in the perceived adequacy of their food supply, between the check and coupon households. However, large proportions of both groups (53 percent of check households and 45 percent of coupon households) reported that they do not always have the types of foods they want (a difference significant at the .05 level). This suggests that although cash

benefits offer more freedom in choosing foods, check households still feel they are not able to obtain an adequate supply of the foods they prefer.

If check households are diverting money from the food budget to other household expenditures they may be purchasing either less expensive foods, or foods they find less desirable, or they may be relying more heavily on nonpurchased food supplies for which there is little, if any, choice (gifts, WIC, food bank supplies, or commodities). About 21 percent of check households and 26 percent of coupon households reported that sometimes or often they do not have enough food (not a statistically significant difference).

About one-third of both coupon and check households reported that they had gone for at least one day without any food. In the households reporting that at least one member went without food for at least a day, the time without food averages six days out of the month. Fewer households, about one-fifth of both groups, reported having a household member skip meals due to a lack of resources. The average number of days on which meals were skipped is slightly higher for check households (8 days) than for coupon households (6 days), a difference that is not statistically significant.

Actions to Get Food in Past Month

When household food supplies are low, or are perceived to be dwindling, several different strategies are available to increase or stretch the amount of available food or resources for food. Respondents were asked whether they had used any of 13 strategies listed in Table IV.8 in the past month. All the strategies are reportedly used by some households in both groups, but the

Table IV.7 RECIPIENT PERCEPTIONS OF ADEQUACY OF HOUSEHOLD FOOD SUPPLY DU
(percent of households)

Measure of Household Food Supply	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
Adequacy of Food Eaten during Past Month					
Enough of Desired Types of Food	25.56	29.40	-3.83	-13.04	-1.20
Enough, but not Always Desired Types	53.13	44.62	8.51	19.08	2.38 **
Sometimes or Often not Enough	20.80	25.46	4.66	-18.29	-1.54
Any Days Household without Food or Resources to Buy Food?					
Yes	31.58	35.17	-3.59	-10.21	-1.06
Number of Days [a]	5.77	6.11	-0.35	-5.65	-0.67
Any Household Member Skip Meals Due to Inadequate Food or Resources During Past Month?					
Yes	20.30	21.52	-1.22	-5.68	-0.42
Number of Days When Meals Were Skipped [b]	7.57	6.26	1.32	1.02	1.33
Sample Size	399	381			

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

[a] For households reporting at least one day without food or resources to buy food during the past month.

[b] For households reporting that a household member skipped one or more meals oon at least one day in the past month.

actions cited most often include taking money out of savings to purchase food (approximately 60 percent of each group) and eating at a soup kitchen or church (37 percent of check and 43 percent of coupon households). The most significant difference between the two groups is that check households are more likely to work extra hours or extra jobs so that they can have more money for food. Twenty-eight percent of check households reported doing this compared to 20 percent of coupon households--significant at the .05 level. This difference may partially be explained by the fact that check recipients are enrolled in FIP, which encourages job training and employment and provides incentives and support services to those who do become employed.

Participation in Other Programs and Other Food Sources

To supplement the food they purchase, Food Stamp Program participants may be eligible for federal food assistance, may receive food gifts, and may grow their own food. Sources of federal food assistance include the National School Lunch Program (NSLP), the School Breakfast Program (SBP), the Supplemental Food Program for Women, Infants and Children (WIC), and the USDA commodity distribution program. Table IV.9 shows the use of nonpurchased food sources by both check and coupon households.

Results on the school meals programs are shown in the tables for completeness. However, they should be interpreted with extreme caution for two reasons. First, although eligibility for the programs does not vary by site, the actual availability of the school breakfast programs can vary substantially by school district. Second, the survey questions unfortunately applied to a vacation period for many households, when children were in fact not going to school.

Table IV.8 ACTION TAKEN TO OBTAIN FOOD DURING THE PAST MONTH (percent of hou

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Measure of Household Food Supply	Mean		Differ			
	Check	Coupon	Absolute	Percent	T-statistic	
Buy or Serve Less Expensive Meals	25.81	23.36	2.45	10.51	0.82	
Serve Smaller Meals	23.81	24.41	-0.60	-2.46	-0.18	
Borrow Money to Buy Food	6.77	7.35	-0.58	-7.92	-0.31	
Borrow Food from Friend or Relative	23.06	23.36	-0.03	-1.29	-0.08	
Eat at Friends' or Relatives' Homes	2.51	2.10	0.41	19.36	0.38	
Get Food from Food Bank, or Food Pantry	4.51	3.67	0.84	22.77	0.60	
Take Money Out of Savings to Buy Food	60.15	59.84	0.31	0.51	0.17	
Eat Meals at Church or Soup Kitchen	36.84	42.52	-5.68	-13.35	-1.54	
Buy Food on Credit Last Month	1.25	2.62	-1.37	-52.26	-1.37	
Work Extra Hours or Jobs	28.32	20.47	7.85	38.34	2.56	**
Apply for WIC Benefits Last Month	4.76	4.20	0.56	13.39	0.39	
Apply for (AFDC/FIP) Benefits Last Month	1.25	3.15	-1.90	-60.21	-1.79	*
Did Something Else for Food	3.26	5.51	-2.25	-40.89	-1.53	
Sample Size	399	381				

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

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Table IV.9 NONPURCHASED FOOD

Food Sources and Values	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-Statistic
SCHOOL MEAL PROGRAMS					
Households with children in grades K-12 in NSLP (%)	23.61	29.59	-5.98	-20.21	-1.37
Average Weekly NSLP Subsidy ($ per NSLP household)	9.39	9.08	0.31	3.43	0.20
Households with children in grades K-12 in SBP (%)	7.41	13.78	-6.37	-46.23	-2.09 **
Average Weekly SBP Subsidy ($ per SBP household)	4.87	3.60	1.27	35.36	1.30
WIC					
WIC-Eligible Households Using WIC Vouchers in Previous Week (%)	49.46	37.33	12.13	32.48	2.95 ***
Value of Food Purchased with Vouchers ($ per WIC household)	20.70	21.79	-1.09	-5.02	-0.35
OTHER NONPURCHASED FOOD					
Households Using Surplus Commodities (%)	20.30	8.38	11.92	142.34	4.84 ***
Households with Home Produced Food (%)	17.04	15.18	1.86	12.25	0.71
Retail Value of Home-Produced Food ($ per household with home produced food)	4.57	5.16	-0.59	-11.41	-0.55
Households Using Gift Food (%)	64.16	60.47	3.69	6.10	1.06
Retail Value of Gift/Pay Food ($ per household with food received as gifts or payments)	10.27	8.25	2.02	24.51	1.64 *
Weekly Value of All Nonpurchased Food ($ per household with some nonpurchased food)	18.48	16.19	2.29	14.15	1.30

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

The differences between check and coupon households with respect to their participation in the commodities distribution program and WIC are highly significant, with participation in both programs higher among the check households. Twenty percent of check households participate in the commodities program versus 8 percent of coupon households. Fifty percent of check households used WIC food in the week prior to the interview versus 37 percent of the coupon households. Both differences are significant at the .01 level. There is no difference found in the value of the WIC food used, given WIC voucher use.

Check households use an average of $10.27 worth of food received as a gift, compared to coupon household use of $8.25. The overall value of nonpurchased food averages $18.48 for check households versus $16.19 for coupon households. Neither difference is statistically significant.

D. Summary

Although there is no difference between check and coupon household perceptions of adequacy of their food supply, check households have lower household food use, nutrient availability and recipient satisfaction with their food supplies. The differences between the two groups of households are reflected in the money value of all food used at home, the money value of food used in many food groups, the overall nutrient availability and recipient satisfaction with the types of food available in their homes. The pattern of food used--by type, cost, nutrient content and nutrient density--is similar for the two groups, however. Finally, check households have greater nutrient density per dollar value of food used, suggesting more efficient use of the dollars they choose to spend on food.

V. EXPENDITURE PATTERNS

Differences in the form of the food benefit received directly influence what households can buy and where they can buy it. Food checks may be spent on anything, anywhere. Food coupons may only be spent on items intended for home food use, and only at authorized retail establishments. If the form of benefit has any affect on household behavior, it may be most evident in changing household expenditure patterns.

Three areas of household expenditures are analyzed in pursuing this issue. First, in the context of overall food expenditures, patterns of home and away from home food expenditures are compared for the two groups. Because restaurants cannot accept coupons in payment for meals, one major difference might be higher relative restaurant expenditures by check households than by coupon households. Second, since expenditure patterns represent household tradeoffs, increased spending in one area is by definition associated with decreased spending in other areas. If check households spend less on food, what do they spend more on? Finally, the comparison of check and coupon household expenditures indicates where households shop. Food coupons can only be used at authorized retailers. Food stamp coupon users may feel embarrassed when using food coupons at retailers. Embarrassment and simple access problems together suggest that, regardless of changes in overall food purchasing patterns, check and coupon households may spend their food dollar differently.

A. Home and Away From Home Food Expenditures

A key concern in the development of the cashout instrument was the potential bias in an instrument aimed at eliciting detailed home food use but only overall totals for away from

home food expenditures. (Detailed questions usually add up to larger totals than the estimate elicited by a question about total amount.) Since expenditures on food away from home are more on the order of 10 percent of the food budget for AFDC households, however this source of bias turns out to be minor.

On a monthly basis, as on a weekly basis (see Chapter IV), check households spend less on purchased food eaten at home than do coupon households (Table V.1).[9] The average monthly money value of purchased food for coupon households is $315 versus $283 for the check sample, a 10.2 percent difference significant at the .01 level. Normalizing for differences in FCU composition by an adult equivalence scale increases the difference to 10.7 percent, significant also at the .01 level. The average proportion of meals eaten at home is not significantly different for the two samples, however.

Away from home food expenditures are not significantly different for the two groups. On a per household basis, check households spend 6 percent more on food eaten away from home, but on a per AME basis they spend 1 percent less--neither difference is statistically significant. The finding of no difference in expenditures on food eaten away from home may not be surprising. For many AFDC families, food eaten away from home appears to be out of reach, not just because coupons cannot be used at restaurants, but because their limited income cannot be spent on even the marginally increased expense of restaurant meals.

Total food expenditures, as expected given the weekly findings, follow the general pattern of their principal component, home food expenditures. Average total food

9. Monthly expenditures are based on the weekly data collected in the survey using a multiplier of (365/7) x 12.

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Table V.1 MONTHLY EXPENDITURES FOR FOOD USED AT HOME AND AWAY FROM HOME [a]

	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
Food Used at Home					
Expenditures per Household	283.14	315.34	-32.20	-10.21	-2.84 ***
Expenditures per AME	141.29	158.12	-16.83	-10.65	-3.00 ***
Percent of Total Food Expenditures	91.45	91.67	-0.22	-0.24	-0.24
Percent of Meals Eaten at Home	83.47	84.57	-1.10	-1.30	-0.95
Food Used Away from Home					
Expenditures per Household	34.03	32.23	1.79	5.56	0.36
Expenditures per AME	17.13	17.30	-0.17	-0.98	-0.07
Percent of Total Food Expenditures	8.55	8.33	0.22	2.67	0.24
Percent of Meals Eaten Away from Home	16.53	15.43	1.10	7.10	0.95
Total Food					
Expenditures per Household	317.16	347.57	-30.41	-8.75	-2.32 **
Expenditures per AME	158.42	175.42	-17.00	-9.69	-2.64 ***
Sample Size	399	381			

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

[a] Monthly expenditures = Reported weekly expenditures *(365/7) /12

expenditures are $30 more for the coupon sample than for the check sample, a difference of 9 percent. Average total food expenditures per AME are $17 more for the coupon sample than for the check sample, a difference of 10 percent. Both differences are significant at the .01 level.

B. Expenditures by Broad Consumption Categories

If food expenditures are higher for coupon households than for check households, where does the money come from? In the Washington State cashout evaluation it appears to be a combination of insignificant differences in overall income and significant differences in expenditures on transportation and shelter. To examine the impact of cashout on other expenditure categories we look at two sets of expenditure measures. In the first set of measures, we look at how average dollar values differ between check and coupon recipients. In the second set of measures we examine average budget shares. Average budget shares differ from dollar values in that the dollar value for each household is divided by that household's total expenditures. The general results are similar, although the comparison of dollar values has inherently less statistical power than does the comparison of budget shares. By dividing expenditures in each category by total expenditures, budget shares reduce the influence of very large occasional expenditures. For example, while transportation costs average around $100 for the two groups, occasionally households report exceptional expenditures of $800 or more. These exceptional purchases are the major source of variance for dollar expenditures. By dividing simple expenditures by total expenditures, the influence

of these exceptional expenditures is automatically lessened, resulting in greater statistical precision.

We first examined average monthly expenditures in dollars (Table V.2). Coupon households spend an overall total of $931 per month compared to $892 per month for check households, a difference of $39. Recall that total cash and noncash income for coupon households average $863 per month compared to $840 per month for check households, a difference of $23.

Household expenditures on shelter ($361 check, $354 coupon), food ($317 check, $348 coupon) and transportation ($106 check, $91 coupon) are by far the largest components of total dollar expenditures. Together these three categories make up 88 percent of total expenditures for the check sample and 85 percent of total expenditures for the coupon sample. Outside food costs, there are no significant differences between the average dollar expenditures, with the exception of clothing expenditures, on which coupon households appear to spend significantly more than check households.

An analysis of budget shares by dividing each budget category's expenses by total household expenditures (Table V.3), as noted, improves statistical efficiency relative to the comparison in Table V.2. The budget share of total expenditures for check households is higher for shelter costs (at the .10 significance level) and transportation costs (at the .01 significance level) and the difference in clothing costs noted in Table V.2 is no longer significant. The -7 percent difference in food budget shares between the check sample's average budget share of 36 percent and the coupon sample's average budget share of 39 percent is now shown to relate to increases in budget shares for the two other predominant

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Table V.2 MONTHLY EXPENDITURES BY BROAD CONSUMPTION CATEGORIES [a]

	Mean Dollar Value		Difference			Percent of Total Sample Expenditures	
	Check	Coupon	Absolute	Percent	T-statistic	Check	Coupon
All Food	317.17	347.57	-30.40	-8.75	-2.32 **	35.55	37.32
Food Used at Home	283.14	315.34	-32.20	-10.21	-2.84 ***	31.74	33.86
Food Used away from Home	34.03	32.23	1.80	5.58	0.36	3.81	3.46
All Shelter	361.79	354.00	7.79	2.20	0.76	40.55	38.01
Housing	265.24	260.35	4.89	1.88	0.49	29.73	27.96
Utilities	96.55	93.65	2.90	3.10	0.46	10.82	10.06
Medical	5.60	5.49	0.11	2.00	0.05	0.63	0.59
Transportation	106.12	91.41	14.61	16.09	1.45	11.89	9.32
Clothing	48.99	64.53	-15.54	-24.08	-2.33 **	5.49	6.83
Education	9.16	18.31	-9.15	-49.97	-1.82 *	1.03	1.97
Dependent Care	2.90	2.91	-0.01	-0.34	0.01	0.33	0.31
Recreation	31.75	36.27	-4.52	-12.46	-0.93	3.56	3.89
Personal Items	8.72	10.82	-2.10	-19.41	-1.61	0.98	1.16
Total	892.20	931.31	-39.11	-4.20		100.00	100.00

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

[a] Monthly expenditures = reported weekly expenditures * (365/7) / 12

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Table V.3 INDIVIDUAL HOUSEHOLD BUDGET SHARES BY BROAD CONSUMPTION CATEGORIES (percent)

	Mean Budget Shares[a]		Difference in Sample Budget Share		
	Check	Coupon	Absolute	Percent	T-statistic
All Food	36.02	38.75	-2.73	-7.04	-3.11 ***
Food Used at Home	32.69	35.34	-2.64	-7.48	-3.16 ***
Food Used away from Home	3.33	3.42	-0.09	-2.51	-0.21
All Shelter	42.34	40.28	2.06	5.10	1.84 *
Housing	31.69	30.68	1.01	3.28	0.93
Utilities	10.78	9.92	0.87	8.73	1.46
Medical	0.53	0.51	0.02	4.36	0.12
Transportation	10.28	8.85	1.43	16.14	2.04 **
Clothing	5.35	5.83	-0.48	-8.18	-0.88
Education	0.88	1.28	-0.40	-31.04	-1.65 *
Dependent Care	0.27	0.23	0.05	19.84	0.31
Recreation	3.31	3.53	-0.22	-6.26	-0.61
Personal Items	1.16	1.16	-0.00	-0.25	-0.02
Sample Size	399	381			

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

[a]Individual budget shares are calculated on an observation - by - observation basis. Missing values are deleted in comparisons of means but treated as zeros in calculation of total household expenditures.

expenses: transportation and shelter. While average food budget shares are lower for the check sample by 7 percent, average shelter and transportation budget shares are higher by 5 and 16 percent respectively. Differences in the budget shares for education now become significant at the .10 level, although the substantive importance of this difference is minimal given the extremely small budget shares involved.

The different expenditure proportions allocated among necessities by the two groups raises a possible explanation for the overall cashout effect that should be explored in further research. Obtaining car loans, apartment leases, and housing mortgages depends on a household's proven ability to pay. Check households have higher cash income. Thus, their ability to enter into long-term obligations is enhanced. For some households this added freedom may be important in their overall ability to cope. For other households, however, an ill-thought-out long-term obligation may seriously reduce expenditures on resources available for future food purchases.

C. Household Shopping Patterns

Based on the experience of cashout in Puerto Rico, nonuniversal participation by food retailers in the food stamp program, and known recipient concerns about stigma, we hypothesize that cashout might influence shopping patterns among food stamp recipients. In the cashout survey, respondents were asked to recall their use of and expenditures on food and nonfood items at supermarkets, neighborhood grocery stores, convenience stores and specialty stores. The intent was to gain new information on both household behavior and retailer impacts.

Household food shopping patterns do turn out to be different for the two groups. The use of neighborhood groceries and specialty stores is significantly higher for check than for coupon households (Table V.4). The percentage of check households reporting at least one trip to a neighborhood grocery store is 40 percent versus 33 percent for coupon households, a difference significant at the .10 level. A similar difference is found in the use of specialty stores; 33 percent of check households and 25 percent of coupon households reported some use in the previous month.[10]

Average monthly food expenditures at three of the four types of retail establishments are also significantly different for the coupon and check samples (Table V.5). Check households spend $176 a month on food expenditures at supermarkets versus $198 for coupon households. The difference of -$22 (11 percent) is significant at the .01 level. Average neighborhood grocery food expenditures are $4.97 higher for the check sample, a 44 percent increase, also significant at the .01 level. Average specialty store food expenditures are $3.98 higher for the check sample, a difference significant at the .10 level.

Budget shares are shown in the lower half panel of Table V.5, constructed by dividing expenditures by category by total expenditures. A higher percentage of the home food budget for check households is spent in neighborhood grocery stores and specialty stores than for coupon households and a lower percentage in supermarkets (88 percent for coupon households versus 84 percent for check households), a difference significant at the .01 level.

10. Specialty stores include bakeries, vegetable stands, dairy stores, meat markets, health food stores, liquor stores and farmers' markets.

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Table V.4 SHOPPING TRIPS FOR FOOD USED AT HOME BY TYPE OF RETAILER

	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
Percent of Households Using Type of Store					
Supermarkets	99.50	99.74	-0.24	-0.24	-0.54
Neighborhood Grocery Stores	39.60	33.33	6.27	18.80	1.82 *
Convenience Stores	42.11	41.73	0.37	0.89	0.11
Speciality Stores	32.58	25.20	7.38	29.31	2.28 **
Number of Trips Past Month					
Supermarkets	6.57	6.60	-0.03	-0.45	-0.07
Neighborhood Grocery Stores	2.98	2.10	0.88	42.08	2.06 **
Convenience Stores	2.97	3.24	-0.27	-8.21	-0.55
Speciality Stores	0.77	0.64	0.13	20.88	0.98
All Stores	13.26	12.54	0.72	5.74	0.87
Sample Size	399	381			

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

Table V.5 MONTHLY EXPENDITURES FOR FOOD USED AT HOME BY TYPE OF RETAILER

	Mean		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
Home Food Expenditure by Type of Store					
Supermarkets	$176.08	$198.04	-$21.96	-11.09%	-2.93 ***
Neighborhood Grocery Stores	16.13	11.16	4.97	44.53	1.94 *
Convenience Stores	6.49	7.09	-0.60	-8.46	-0.51
Speciality Stores	12.39	8.41	3.98	47.32	1.54
	211.09	224.70	-13.61	-6.06	-1.59
Percent of Home Food Expenditures by Type of Store					
Supermarkets	84.35	88.83	-4.48	-5.04	-3.49 ***
Neighborhood Grocery Stores	7.82	4.86	2.96	60.91	3.02 ***
Convenience Stores	3.08	3.08	0.01	0.32	0.02
Speciality Stores	4.75	3.24	1.51	46.60	1.88 *

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

Note: Sample sizes for Table V.5 are based on only households with complete monthly food purchasing information. Because many respondents found it difficult either to recall the number of times they visited retailers, could not distinguish between type of retailers, or were unable to distinguish between food and non-food purchases at these establishments. In Table V.5 sample sizes are reduced to 353 for the check sample and 362 for the coupon sample. Nonresponse is most severe for the check sample, where this decreases effective sample size by 11.3 percent.

VI. ATTITUDES

Standard economic theory presumes that individuals will opt for more freedom in budgeting and thus prefer less restrictive forms of income. On this theory, checks should be preferred because they can offer households more choice, and households should generally prefer to receive their food benefits in the form of a check because:

- For a given amount of food benefits and other income, households have some given desire for food and nonfood expenditures.
- If desired household food expenditures exceed the monthly food stamp benefit, the household won't care which form of benefit they receive. The food stamp benefit is not restrictive.
- If desired household food expenditures are less than their food stamp benefit, the household will prefer to receive checks, since checks can be spent on anything.

Use of food stamp coupons may be perceived as stigmatizing by some households. For this reason also it is possible that food benefit checks, which are less stigmatizing than coupons, may be the preferred form of food benefit.

In this chapter we examine a set of attitudinal questions towards food stamp benefits. In interpreting the results, it is important to note that respondents are typically more likely to cite advantages and less likely to cite disadvantages for their current benefit form, whether it be checks or coupons.

The first four tables, show responses to questions asking respondents to compare food stamp checks and coupons. The questions are open-ended, with a maximum of four

separate responses possible. Most individuals gave only one response, even after being prompted for another response.

The most common response for why recipients preferred checks to coupons is the expected response: "Checks can be used for other necessities" (Table VI.1). Over 52 percent of all check respondents, and over 42 percent of all coupon respondents listed this as an advantage of checks. The next two most commonly cited advantages of checks dealt with the issue of stigma. Respondents felt that with checks they "don't feel embarrassed" and "feel more dignified". Overall, 28 percent of the check households mentioned "they don't feel embarrassed" using food checks, compared with 13 percent of coupon households. Nine percent of check households and 8 percent of coupon households said that food checks offer more choices of food stores.

The largest differences in responses indicating an advantage of food checks is in the "no advantages" category. Eighteen percent of coupon households perceive no advantages of receiving checks versus 2 percent of check households.

Table VI.2 reveals that many of the reasons given can be perceived both as positive and negative. For example, 29 percent of check respondents and 53 percent of coupon respondents feel that one disadvantage of the check form of benefit is it "Doesn't ensure benefits spent on food."[11] The next three most frequently mentioned disadvantages of receiving food checks, follow the same theme: "Checks can be abused", "Can't budget food

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11. This perceived need for some outside constraint on spending is also reflected in the fact that households will voluntarily have their employers "overwithhold" on their paychecks to enforce savings, even at a cost of forgoing interest.

Table VI.1 PERCEIVED ADVANTAGES OF FOOD CHECKS
(percent of respondents by current and previous food benefit)

	Checks Always	Checks Now Past Coupon Experience	Only Checks Now	Only Coupons Now
Can Be Used for Other Necessities	52.1	47.7	51.4	42.3
Don't Feel Embarrassed	21.8	32.7	27.8	12.6
Allow You to Feel More Dignified	21.2	17.8	18.3	4.5
More Choices of Food Stores	10.3	7.9	8.5	7.6
More Control over Household Budget	9.1	8.4	8.5	3.4
Easier to Budget Food Expenses	6.7	7.0	6.8	3.4
Don't Cause Problems in Checkout	2.4	5.6	4.0	1.6
No Need to Go to Issuance Office	3.6	1.9	2.5	5.0
Convenient	3.0	1.9	2.3	3.9
Not Difficult to Cash	1.2	1.4	1.5	1.3
Ensure Benefits Spent on Food	1.2	0.5	0.8	0.8
Not Enough	0.6	0.9	0.8	1.0
Used for Nonfood items	1.2	0.0	0.5	0.3
Checks Save Government Money	0.0	0.9	0.5	0.3
Less Likely to Be Stolen	0.0	0.5	0.3	1.0
No Need to Stand in Line	0.6	0.0	0.3	1.0
Never Late	0.6	0.0	0.3	0.3
ID not Required	0.6	0.0	0.3	0.0
Teach to Save	0.6	0.0	0.3	0.3
Can Spend Anywhere	0.0	0.5	0.3	0.0
Nothing	3.0	1.9	2.3	18.1
Refusal	0.0	0.0	0.0	0.0
Don't Know	2.4	0.5	1.3	8.9
Missing	0.0	0.9	0.8	1.6
All Other	3.6	2.8	3.2	4.8
Sample Size	165[a]	214[a]	399[a]	381

Source: Washington State Cashout Survey
a/ Of the check sample, previous coupon experience was unreported for 20 observations

Table VI.2 PERCEIVED DISADVANTAGES OF FOOD CHECKS
(percentage of respondents by current and previous food benefit)

	Checks Always	Checks Now, Past Coupon Experience	Only Checks Now	Only Coupons Now
Don't Ensure Benefits Spent on Food	24.8	31.3	29.3	53.3
Can Be Abused	8.5	5.6	6.5	6.8
Can't Budget Food Expenses Well	3.6	6.1	4.8	5.0
Can Be Used for Other Necesseties	3.6	3.7	3.8	6.3
Not Enough	1.8	5.1	3.5	0.8
Less Control over Household Budget	3.0	2.8	3.0	2.9
Can't Be Used for Other Necessities	1.2	1.9	1.5	1.3
Difficult to Cash	1.8	0.9	1.3	0.8
Tax on Items	0.0	1.4	0.8	1.8
Need to Pay a Fee	0.6	0.9	0.8	0.3
Used for Nonfood Items	0.0	0.9	0.5	1.0
Feel Embarrassed	0.0	0.9	0.5	0.3
More Pressure to Get Job	0.0	0.5	0.3	0.0
More Likely to Be Stolen	0.0	0.0	0.3	0.5
More Food Choices	0.0	0.5	0.3	0.0
Nothing	45.5	36.4	40.6	15.0
Refusal	0.0	0.0	0.0	0.0
Don't Know	7.3	2.8	4.5	9.7
Missing	1.8	2.8	2.3	1.3
All Other	0.6	1.9	1.6	5.2
Sample Size	165[a]	214[a]	399[a]	381

Source: Washington State Cashout Survey
a/ Of the check sample, previous coupon experience was unreported for 20 observations

expenses well", "Can be used for other necessities". Forty-one percent of check respondents found no disadvantage of food checks versus 15 percent of the coupon respondents.

The cited advantages of food stamp coupons (Table VI.3) reinforce the message of Tables VI.1 and VI.2 that some recipients appreciate restrictions. The most commonly cited advantage for food coupons is that they "ensure benefits are spent on food". Sixty-seven percent of the coupon recipients and 53 percent of the check recipients mentioned this as an advantage of coupons. Other common responses include "Can't be used for other necessities" and "Easier to budget."

The perceived disadvantages of food stamp coupons again raise the issue of stigma (Table VI.4). The most common response for both coupon and check recipients is that food stamp coupons can make one feel embarrassed, cited by 37 percent of the check respondents and 29 percent of the coupon respondents. Restrictions on authorized expenditures comes a close second, mentioned as a disadvantage by 30 percent of the check sample and 24 percent of the coupon sample. Nine percent of the check sample found no disadvantages in receiving coupons (compared with 41 percent finding no disadvantages of checks). Eighteen percent of the coupon sample found no disadvantages of coupons (the same percentage that found no disadvantage of checks).

Besides showing the importance of food budgeting and embarrassment as issues to be dealt with in consideration of food benefit form, Tables VI.1 through VI.4 reveal other issues of concern to households. Convenience in getting benefits is one. Five percent of the check

Table VI.3 PERCEIVED ADVANTAGES OF FOOD STAMP COUPONS
(percentage of respondents by current and previous food benefit)

	Checks Always	Checks Now Past Coupon Experience	Only Checks Now	Only Coupons Now
Ensure Benefits Spent on Food	52.7	54.2	53.4	67.2
Can't Be Used for Other Necessities	4.8	8.4	6.5	6.6
Easier to Budget Food Expenses	4.2	5.6	5.5	14.4
No Tax on Items	2.4	1.9	2.3	8.7
Convenient	1.2	1.9	1.5	1.0
More Control over Household Budget	1.2	1.4	1.3	5.8
Stamps Harder to Abuse	1.8	0.5	1.3	1.0
Stamps Last Longer	0.0	0.9	0.5	0.3
Allow You to Feel More Dignified	0.0	0.5	0.3	0.0
Checks Can Be Abused	0.0	0.5	0.3	0.0
Less Likely to Be Stolen	0.0	0.0	0.0	1.0
Nothing	19.4	19.2	19.3	6.0
Refusal	0.0	0.0	0.0	0.0
Don't Know	8.5	3.3	5.5	3.7
Missing	1.2	0.9	1.0	0.5
All Other	7.2	7.1	7.1	5.3
Sample Size	165	214	399	381

Source: Washington State Cashout Survey
a/ Of the check sample, previous coupon experience was unreported for 20 observations

Table VI.4 DISADVANTAGES OF FOOD STAMP COUPONS
(percentage of respondents by current and previous food benefit)

	Checks Always	Checks Now Past Coupon Experience	Only Checks Now	Only Coupons Now
Feel Embarrassed	32.1	39.7	36.6	29.4
Can't Be Used for other Necessities	32.1	27.6	30.3	23.6
Don't Feel Dignified	15.8	15.4	15.0	7.9
Fewer Choices of Food Stores	7.9	4.7	6.3	11.5
Cause Problems in Checkout Line	4.2	6.5	5.3	5.5
Less Control over Household Budget	1.8	3.3	3.3	0.8
Need to go to Issuance Office	4.2	1.9	2.8	8.1
Can't Budget Food Expenses Well	2.4	2.3	2.5	0.3
Used on Black Market	2.4	1.9	2.0	1.6
Inconvenient	1.2	1.4	1.3	0.5
Have Been Late	1.2	1.4	1.3	3.7
Need to Stand in Line	0.6	1.4	1.0	1.6
Ensure Benefits Spent on Food	0.6	0.9	0.8	0.5
Not Enough	0.6	0.9	0.8	6.8
Difficult to Cash	0.6	0.9	0.8	0.5
Proper ID required	0.6	0.5	0.5	0.3
Stamps Look Fake	0.6	0.5	0.5	0.3
More Likely to Be Stolen	0.6	0.5	0.5	0.0
ATPS Have Been Late	0.6	0.5	0.5	0.5
Nothing	7.3	9.3	8.8	18.1
Refusal	0.0	0.0	0.0	0.3
Don't Know	13.9	2.8	7.5	4.7
Missing	0.6	0.5	0.5	0.5
All Other	1.8	5.7	4.3	6.0
Sample Size	165	214	399	381

Source: Washington State Cashout Survey
a/ Of the check sample, previous coupon experience was unreported for 20 observations

respondents and 8 percent of the coupon respondents mentioned "the need to go to the issuance office (for stamps)" as a disadvantage of coupons.[12]

Additional support for the importance of budgeting and control of the food benefit is given in Tables VI.5 and VI.6. After responses to the open-ended questions for which interviewers only coded what the respondents mentioned, all respondents were asked for their level of agreement with the following two questions.

— "Food Stamps give more control than a Food Check over the household's food spending"

— "Food Stamps are more helpful than Food Checks in planning and budgeting the household's monthly expenses."

Two explicit questions on the control issue were also asked:

— "Does one particular person in your household take charge of the Food (Stamps/Check) and decide what they are used for?"

— "Who is that person?"

Together these questions reaffirm that both check and coupon respondents believe that food stamps are helpful for budgeting. Over 56 percent of check respondents and 80 percent of coupon respondents agreed or agreed strongly with the statement "Food stamps are helpful in budgeting and planning food expenses." However, reactions to the questions concerning control were mixed. A majority of coupon respondents agreed to some extent that stamps do give more control (73 percent), but a majority of check respondents (59 percent) disagreed. The questionnaire provides the opportunity to examine issues of control in more depth, since

12. It is often thought that going to an issuance office to get coupons is similar to going to the bank to get cash. However, welfare households already have to cash their welfare check. Since FIP includes FSP benefits in the welfare check, cashout involves only a single trip.

Table VI.5 ATTITUDES ABOUT THE ROLE OF CHECKS VERSUS COUPONS IN BUDGETING AND CONTROL OF FOOD EXPENDITURES
(total sample by current food benefit)

	Percent		Difference		
	Check	Coupon	Absolute	Percent	T-statistic
Food Stamps Give More Control (percent)					
Strongly Agree	8.52	32.90	-24.37	-74.10	-8.74
Agree	26.31	40.26	-13.95	-34.65	-4.16 ***
Disagree	42.61	18.42	24.19	131.30	7.61 ***
Strongly Disagree	16.79	4.47	12.32	275.28	5.72 ***
Don't Know	5.76	3.68	2.08	56.46	1.37
Food Stamps Helpful in Budgeting Food Expenses (percent)					
Strongly Agree	16.54	36.84	-20.30	-55.11	-6.55 ***
Agree	40.35	43.68	-3.33	-7.63	-9.41 ***
Disagree	31.58	11.58	20.00	172.73	7.01 ***
Strongly Disagree	7.27	3.68	3.58	97.29	2.21 **
Don't Know	4.26	3.95	0.31	7.94	0.22
One Person Takes Charge of Food Benefits	91.71	95.50	-3.79	-3.97	-2.17 **
Person Who Takes Charge is Main Food Preparer	91.51	94.18	-2.68	-2.84	-1.40

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

Table VI.6 ATTITUDES ABOUT THE ROLE OF CHECKS VERSUS COUPONS IN BUDGETING AND CONTROL OF FOOD EXPENDITURES
(check sample by previous coupon experience)

	Mean		Difference			
	Check Always	Previously Coupon	Absolute	Percent	T-statistic	
Food Stamps give more Control (percent)						
Strongly Agree	5.45	9.81	-4.36	-44.44	-1.61	
Agree	30.30	23.36	6.94	29.71	1.50	
Disagree	44.24	42.52	1.72	4.05	0.33	
Strongly Disagree	12.73	19.16	-6.43	-33.56	-2.73	***
Don't Know	7.27	5.14	2.13	41.44	0.84	
Food Stamps Helpful in Budgeting Food Expenses (percent)						
Strongly Agree	12.73	18.69	-5.96	-31.89	-1.60	
Agree	44.85	37.85	7.00	18.49	1.37	
Disagree	28.48	34.58	-6.10	-17.64	-1.27	
Strongly Disagree	7.27	6.54	0.73	11.16	0.28	
Don't Know	6.66	2.34	4.32	184.62	1.96	**
One Person Takes Charge of Food Benefits (percent)	93.29	89.72	3.57	3.98	1.25	
	164	214				
Person Who Takes Charge is Main Food Preparer (percent)	90.85	92.71	-1.86	-2.01	-0.62	

Source: Washington State Cashout Survey
Percent difference = (mean check - mean coupon)/mean coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

respondents were asked whether one person takes charge of the food stamp benefits, and if that person is the respondent. In 91 percent of check households only one person takes charge of food benefits, compared with 94 percent of coupon households, a difference that is significant at the .01 level. When only one person takes charge of food benefits, it is the main food manager in 92 percent of the check households compared to 94 percent of the coupon households, a difference that is only marginally significant.

Interpreting differences between check households who said they had previous coupon experience and check households without such experience is problematic, because we are relatively sure that the previous-coupon-experience group contains people who had not actually had such experience except for a single occasion at the beginning of their FIP participation. The analysis sample, as noted, contains only new applicants to food stamps. In Washington State, 80 percent of public assistance food stamp households are eligible for expedited benefits, which the state is obligated to supply within five working days of application. Because welfare checks are handled at the state offices in Olympia, making it impossible to guarantee delivery to the expedited benefit client within five days, expedited food stamp benefits are issued in the form of coupons in the first benefit month, even for FIP clients. In subsequent months the FIP food benefit switches to checks. Thus, at least some respondents answering truthfully about prior coupon experience were almost certainly talking about a one-time only experience, but nothing in the survey data can distinguish between these households and households with more extensive coupon experience. For the most part, check respondents with prior food stamp experience answer in a manner similar to the check

respondents with no prior food stamp experience. They are, however, somewhat more likely to mention issues of budgeting and control.

Coupon experience appears to reinforce attitudes towards control. A higher proportion of check respondents with coupon experience both strongly agree and strongly disagree with the idea that food stamp coupons help in household control. The difference in the percentage answering in strong agreement is only marginally significant, but the difference in the proportion answering in strong disagreement is highly significant (at the .01 level).

In summary, a wide variety of evidence from the cashout survey suggests that the form of the food benefit is perceived by recipients to affect stigma, budgeting, and control. But the constraints on expenditure choices imposed by coupons are by no means universally viewed as a disadvantage.

An additional issue addressed in the survey applies to check recipients only--their experience in cashing their food benefit checks (Table VI.7). Since recipients in Washington State were already having to cash their AFDC benefit check, the receipt of food stamps in the form of a check did not impose an additional check-cashing burden. The reported experience in cashing food benefit checks, therefore, really reflects how FIP recipients cash their welfare (plus food benefit) checks. Six out of 10 (59.9 percent) say they cash them at a bank. Seven out of 10 (70.3 percent) say they do not have to pay a fee to cash the check and those who do pay a fee pay an average of $2.90 per check. Nine out of 10 (92.2 percent) say they do not have to make a purchase in order to cash the check.

Table VI.7 EXPERIENCE IN CASHING FIP/FOOD BENEFIT CHECKS (check sample)

Where FIP/Food Benefit Checks Usually Cashed (percent)		
Supermarket or Grocery Store	18.0	
Other Food Store	1.8	
Nonfood Store	3.0	
Bank	59.9	
Check-cashing Outlet	4.0	
Deposit in Bank	6.8	
Other	1.8	
Missing	4.8	
Purchase Required to Cash Check (percent)		
Yes	7.8	
No	92.2	
Fee for the Cashing Check (percent)		
None	70.3	
Yes	29.7	
$2.50 or Less		17.2
$2.51-$5.00		8.0
$5.01-$10.00		3.9
$10.01 or More		0.6
Mean Fee (dollars per transaction)	$2.90	
Median Fee (dollars per transaction)	$2.00	
Problems in Cashing Food Benefit Checks (percent)		
None	79.4	
Improper or Insufficient ID	5.8	
Store Did Not Have Enough Money to Cash Check	6.0	
Store Refused to Cash Check	5.3	
Limit on Amount Store Will Cash without Purchase	6.8	
Store Gave Credit rather than Cash for Check	0	
Other	5.3	
Sample Size	337	

Source: Washington State Cashout Survey

VII. SUMMARY AND CONCLUSIONS

The purpose of the FNS cashout demonstrations is to estimate the effects of cashout on household expenditures (including food expenditures) and food use and nutrient availability. The results of the FIP cashout demonstration in Washington State support arguments for and against cashout. One of the concerns about cashout is that recipient households might spend money otherwise earmarked for food purchases on nonfood items, which may decrease the quantity or quality of the food supply. Cashout households in Washington State spend less on food, use less food, and have lower nutrient availability of key nutrients than coupon households. One of the concerns about coupons is that they restrict the ability of low-income households to make their own spending choices. Cashout households did have different spending patterns from those of coupon households, in particular spending a higher proportion of their incomes on shelter.

The Washington State cashout evaluation provides the following answers to the research questions listed earlier.

- Are the food expenditures of households who receive cash benefits different from those that receive coupon benefits? **Yes, households receiving cash benefits have lower food expenditures.**

- Are the relative shares of major household budget items devoted to food and nonfood categories different for cashout than for coupon households? **Yes. Cashout households spend less than coupon households on, and devote a lower budget share to, food purchased for home consumption, have similar patterns for food purchased for use away from home, and spend more on, and devote a higher budget share to, shelter and transportation.**

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differences in household size. Overall, the dollar value of purchased food used at home is 12 percent less per ENU for check households than for coupon households. The differences in the dollar value of purchased food used are reflected in differences in the total quantity of food purchased, which is 9 percent less per ENU for check households than for coupon households. There is no notable shift in the use of foods from one food group to another. Rather, quantities and money values of food used are significantly less for the check households over a broad range of food subgroups. Shifting away from food expenditures, cashout households spend more on other necessities, especially shelter and transportation.

The smaller quantities of food used by check households appear to result in substantial reductions in nutrient availability. The mean availability of food energy and protein per ENU is 8 percent less for check households, a result that is consistent with the overall difference in the quantity of food purchased. The probability that households fail to achieve levels of food energy available in excess of their RDA is 6 percent higher for check households than for coupon households. Even so, available protein remains far in excess of the RDA for most households.

It is noteworthy that the percent difference is reduced with each link in this possible causal chain--a pattern that supports the hypothesis that check households partly compensate for reduced food expenditures by increasing efficiency (nutrient availability per dollar spent) at each link in the chain.

The FSP is intended primarily to assure needy households in the U.S. of the availability of a nutritious diet. The evaluation results suggest that this objective is met for most households regardless of the form of benefit. Average household nutrient availability

from the household food supply is in excess of the RDAs for each nutrient evaluated for check and coupon households, although this measure refers to availability, not intake. Otherwise, the evaluation results strongly suggest that food coupons are significantly more effective at encouraging households to (1) increase food expenditures, (2) increase the quantity of food used, and (3) increase the average availability of certain nutrients. In comparing the effects of coupon and check food benefits for welfare families, the question for policymakers is not so much whether differences between food coupons and food checks exist, but how to weigh the benefits and costs of these differences.

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APPENDIX A
REGRESSION ADJUSTMENTS

The Washington State cashout evaluation is based on a matched site design. For this reason, the form of benefit depends on where the household lives. In consequence, the check and coupon households differ more than they would have if the design had used simple within-site random assignment.

To assess the consequences of this evaluation design limitation, we use multiple regression for six basic outcome variables:

- the money value of food used per ENU
- the money value of purchased food used per ENU
- the money value of nonpurchased food used per ENU
- ENU-adjusted available food energy per RDA
- ENU-adjusted available protein per RDA
- ENU-adjusted available calcium per RDA.

Important indicators of food availability, these six variables serve as benchmarks for the other outcome variables explored in the body of the report.

The choice of variable in the regressions is based on two criteria: variables known to be important in food use behavior, and variables that represented known differences between the coupon and check samples. These variables are included in all six regressions.

In Table A.1 we present the various sample means for the six outcome and sixteen control variables. As discussed in chapters III through V, there are differences between samples for many of the characteristics. In Tables A.2 through A.7 we present results from the regression analyses. In each table, two regressions are presented. The first regression represents a test of mean differences between check and coupon households without

Table A.1 REGRESSION ADJUSTMENT SAMPLE MEANS

	Coupon	Check	Full
OUTCOME VARIABLES			
Money Value of Food Used Weekly per ENU	42.405	37.295	39.791
Money Value of Purchased Food per ENU	33.423	28.293	30.799
Money Value of Nonpurchased Food per ENU	8.982	9.003	8.992
ENU Adjusted Food Energy per RDA	1.44	1.32	1.379
ENU Adjusted Protein per RDA	2.651	2.432	2.539
ENU Adjusted Calcium per RDA	1.353	1.244	1.297
CONTROL VARIABLES			
Amount of Food Benefits Received Last Month	90.065	97.351	93.792
Total Non Food Benefit Income per AME	361.97	342.172	351.842
AFDC Income per AME	191.343	209.475	200.618
White Main Food Preparer	0.727	0.797	0.763
Asian Main Food Preparer	0.013	0.05	0.032
African-American Main Food Preparer	0.105	0.05	0.077
Hispanic Main Food Preparer	0.102	0.06	0.081
Main Food Preparer Did Not Complete 8th Grade	0.05	0.04	0.045
Main Food Preparer Did Not Complete High School	0.283	0.228	0.255
Earned Income In Household	0.273	0.233	0.253
Elderly Person in FCU	0.024	0.003	0.013
Main Food Preparer Female	0.898	0.822	0.859
Main Food Preparer Married	0.215	0.271	0.244
Main Food Preparer Employed	0.168	0.168	0.168
Main Food Preparer Less Than Thirty-Five Years Old	0.84	0.759	0.799
AME	2.195	2.17	2.182

Table A.2 REGRESSION ADJUSTED CASHOUT IMPACTS
MONEY VALUE OF FOOD USED WEEKLY PER ENU

	Coefficient	Standard Error	T-statistic
UNCONTROLLED (COMPARISON OF MEANS)			
Intercept Term	42.3202	1.2616	33.5455
Food Benefit Received in Form of Check	**-5.0247**	**1.7650**	**-2.8468**
N = 780; R-Square = .0103; $\hat{\sigma}$ = 24.66; SSE = 473,616;			
CONTROLLED (MULTIPLE REGRESSION)			
Intercept Term	36.6583	6.6947	5.4757
Food Benefit Received in Form of Check	**-5.0165**	**1.6991**	**-2.9525**
Amount of Food Benefits Received Last Month	0.0719	0.0262	2.7404
Total Non Food Benefit Income per AME	0.0123	0.0023	5.3274
AFDC Income per AME	0.0083	0.0088	0.9374
White Main Food Preparer	-3.4292	3.9159	-0.8757
Asian Main Food Preparer	-3.4379	6.2073	-0.5538
African-American Main Food Preparer	8.5607	4.8528	1.7641
Hispanic Main Food Preparer	-5.5707	4.8603	-1.1462
Main Food Preparer Did Not Complete 8th Grade	-0.4078	4.3040	-0.0947
Main Food Preparer Did Not Complete High School	-2.7778	1.9321	-1.4377
Earned Income In Household	-2.2820	2.8827	-0.7916
Elderly Person in FCU	3.3238	7.4516	0.4460
Main Food Preparer Female	2.6312	2.8970	0.9082
Main Food Preparer Married	3.6221	2.3857	1.5183
Main Food Preparer Employed	4.2404	3.1115	1.3628
Main Food Preparer Less Than Thirty-Five Years Old	1.1863	2.1565	0.5501
AME	-3.7123	1.0296	-3.6056
N = 780; R-Square = .163; $\hat{\sigma}$ = 22.92; SSE = 400,742;			

Table A.3 REGRESSION ADJUSTED CASHOUT IMPACTS
MONEY VALUE OF PURCHASED FOOD WEEKLY PER ENU

	Coefficient	Standard Error	T-statistic
UNCONTROLLED (COMPARISON OF MEANS)			
Intercept Term	33.3573	0.8033	41.5233
Food Benefit Received in Form of Check	**-5.0644**	**1.1239**	**-4.5060**
N = 780; R-Square = .0254; $\hat{\sigma}$ = 15.70; SSE = 192,043;			
CONTROLLED (MULTIPLE REGRESSION)			
Intercept Term	24.1294	4.3634	5.5299
Food Benefit Received in Form of Check	**-5.2927**	**1.1074**	**-4.7795**
Amount of Food Benefits Received Last Month	0.0444	0.0171	2.5943
Total Non Food Benefit Income per AME	0.0041	0.0015	2.6998
AFDC Income per AME	0.0100	0.0057	1.7349
White Main Food Preparer	3.6090	2.5523	1.4140
Asian Main Food Preparer	5.4161	4.0458	1.3387
African-American Main Food Preparer	9.5515	3.1629	3.0199
Hispanic Main Food Preparer	2.3352	3.1678	0.7372
Main Food Preparer Did Not Complete 8th Grade	-0.0698	2.8052	-0.0249
Main Food Preparer Did Not Complete High School	-4.0877	1.2593	-3.2460
Earned Income In Household	1.2167	1.8789	0.6476
Elderly Person in FCU	3.7711	4.8567	0.7765
Main Food Preparer Female	0.9317	1.8882	0.4935
Main Food Preparer Married	-1.1448	1.5549	-0.7362
Main Food Preparer Employed	3.3926	2.0280	1.6729
Main Food Preparer Less Than Thirty-Five Years Old	0.2757	1.4056	0.1962
AME	-1.2443	0.6711	-1.8542
N = 780; R-Square = .136; $\hat{\sigma}$ = 14.94; SSE = 170,237;			

Table A.4 REGRESSION ADJUSTED CASHOUT IMPACTS
MONEY VALUE OF NON-PURCHASED FOOD WEEKLY PER ENU

	Coefficient	Standard Error	T-statistic
UNCONTROLLED (COMPARISON OF MEANS)			
Intercept Term	8.9625	0.9439	9.4949
Food Benefit Received in Form of Check	**0.0400**	**1.3206**	**0.0303**
N = 780; R-Square = 0.0000; $\hat{\sigma}$ = 18.45; SSE = 265,142;			
CONTROLLED (MULTIPLE REGRESSION)			
Intercept Term	12.5286	5.1946	2.4118
Food Benefit Received in Form of Check	**0.2767**	**1.3183**	**0.2099**
Amount of Food Benefits Received Last Month	0.0275	0.0204	1.3525
Total Non Food Benefit Income per AME	0.0082	0.0018	4.5980
AFDC Income per AME	-0.0017	0.0068	-0.2490
White Main Food Preparer	-7.0382	3.0385	-2.3164
Asian Main Food Preparer	-8.8538	4.8165	-1.8382
African-American Main Food Preparer	-0.9905	3.7654	-0.2630
Hispanic Main Food Preparer	-7.9054	3.7713	-2.0962
Main Food Preparer Did Not Complete 8th Grade	-0.3378	3.3396	-0.1012
Main Food Preparer Did Not Complete High School	1.3102	1.4992	0.8740
Earned Income In Household	-3.5004	2.2368	-1.5649
Elderly Person in FCU	-0.4465	5.7819	-0.0772
Main Food Preparer Female	1.7006	2.2479	0.7565
Main Food Preparer Married	4.7671	1.8511	2.5753
Main Food Preparer Employed	0.8494	2.4143	0.3518
Main Food Preparer Less Than Thirty-Five Years Old	0.9100	1.6733	0.5438
AME	-2.4684	0.7989	-3.0897
N = 780; R-Square = 0.090; $\hat{\sigma}$ = 17.78; SSE = 241,274;			

Table A.5 REGRESSION ADJUSTED CASHOUT IMPACTS RATIO OF ENERGY PER ENU TO RDA

	Coefficient	Standard Error	T-statistic
UNCONTROLLED (COMPARISON OF MEANS)			
Intercept Term	1.4375	0.0348	41.3561
Food Benefit Received in Form of Check	**-0.1173**	**0.0486**	**-2.4124**
N = 780; R-Square = .0074; $\hat{\sigma}$ = .679; SSE = 359.53;			
CONTROLLED (MULTIPLE REGRESSION)			
Intercept Term	1.2751	0.1930	6.6067
Food Benefit Received in Form of Check	**-0.1244**	**0.0490**	**-2.5399**
Amount of Food Benefits Received Last Month	0.0023	0.0008	2.9999
Total Non Food Benefit Income per AME	0.0002	0.0001	3.1100
AFDC Income per AME	0.0000	0.0003	-0.0099
White Main Food Preparer	-0.0850	0.1129	-0.7531
Asian Main Food Preparer	-0.1317	0.1789	-0.7362
African-American Main Food Preparer	0.2308	0.1399	1.6495
Hispanic Main Food Preparer	-0.2042	0.1401	-1.4577
Main Food Preparer Did Not Complete 8th Grade	0.0745	0.1241	0.6007
Main Food Preparer Did Not Complete High School	-0.0986	0.0557	-1.7709
Earned Income In Household	-0.0323	0.0831	-0.3885
Elderly Person in FCU	-0.0929	0.2148	-0.4324
Main Food Preparer Female	0.0292	0.0835	0.3493
Main Food Preparer Married	0.0249	0.0688	0.3623
Main Food Preparer Employed	0.1357	0.0897	1.5132
Main Food Preparer Less Than Thirty-Five Years Old	-0.0216	0.0622	-0.3476
AME	-0.0259	0.0297	-0.8743
N = 780; R-Square = .081; $\hat{\sigma}$ = .661; SSE = 333.04;			

Table A.6 REGRESSION ADJUSTED CASHOUT IMPACTS RATIO OF PROTEIN PER ENU TO RDA

	Coefficient	Standard Error	T-statistic
UNCONTROLLED (COMPARISON OF MEANS)			
Intercept Term	2.6457	0.0635	41.6332
Food Benefit Received in Form of Check	**-0.2138**	**0.0889**	**-2.4045**
N = 780; R-Square = .0074; $\hat{\sigma}$ = 1.242; SSE = 1201.74;			
CONTROLLED (MULTIPLE REGRESSION)			
Intercept Term	1.7481	0.3491	5.0072
Food Benefit Received in Form of Check	**-0.2178**	**0.0886**	**-2.4577**
Amount of Food Benefits Received Last Month	0.0031	0.0014	2.2358
Total Non Food Benefit Income per AME	0.0004	0.0001	3.7123
AFDC Income per AME	0.0005	0.0005	1.0858
White Main Food Preparer	0.1433	0.2042	0.7016
Asian Main Food Preparer	0.1204	0.3237	0.3720
African-American Main Food Preparer	0.7081	0.2531	2.7981
Hispanic Main Food Preparer	0.0171	0.2535	0.0675
Main Food Preparer Did Not Complete 8th Grade	0.2079	0.2244	0.9262
Main Food Preparer Did Not Complete High School	-0.2660	0.1008	-2.6402
Earned Income In Household	-0.1447	0.1503	-0.9627
Elderly Person in FCU	-0.6458	0.3886	-1.6619
Main Food Preparer Female	0.1929	0.1511	1.2768
Main Food Preparer Married	-0.0146	0.1244	-0.1172
Main Food Preparer Employed	0.2754	0.1623	1.6976
Main Food Preparer Less Than Thirty-Five Years Old	0.1267	0.1125	1.1265
AME	-0.0091	0.0537	-0.1703
N = 780; R-Square = .010; $\hat{\sigma}$ = 1.20; SSE = 1,089.76;			

Table A.7 REGRESSION ADJUSTED CASHOUT IMPACTS RATIO OF CALCIUM PER ENU TO RDA

	Coefficient	Standard Error	T-statistic
UNCONTROLLED (COMPARISON OF MEANS)			
Intercept Term	1.3501	0.0387	34.9052
Food Benefit Received in Form of Check	**-0.1065**	**0.0541**	**-1.9672**
N = 780; R-Square = .0049; $\hat{\sigma}$ = .756; SSE = 445.21;			
CONTROLLED (MULTIPLE REGRESSION)			
Intercept Term	1.1043	0.2107	5.2399
Food Benefit Received in Form of Check	**-0.1183**	**0.0535**	**-2.2109**
Amount of Food Benefits Received Last Month	0.0011	0.0008	1.3827
Total Non Food Benefit Income per AME	0.0005	0.0001	6.5071
AFDC Income per AME	-0.0001	0.0003	-0.2520
White Main Food Preparer	0.1305	0.1233	1.0587
Asian Main Food Preparer	-0.3441	0.1954	-1.7611
African-American Main Food Preparer	0.0392	0.1528	0.2565
Hispanic Main Food Preparer	-0.1287	0.1530	-0.8412
Main Food Preparer Did Not Complete 8th Grade	0.0400	0.1355	0.2951
Main Food Preparer Did Not Complete High School	-0.1165	0.0608	-1.9160
Earned Income In Household	-0.1952	0.0907	-2.1510
Elderly Person in FCU	0.0672	0.2346	0.2867
Main Food Preparer Female	0.0425	0.0912	0.4661
Main Food Preparer Married	0.0786	0.0751	1.0471
Main Food Preparer Employed	0.1632	0.0980	1.6664
Main Food Preparer Less Than Thirty-Five Years Old	-0.0053	0.0679	-0.0778
AME	-0.0420	0.0324	-1.2965
N = 780; R-Square = .11; $\hat{\sigma}$ = .721; SSE = 397.12;			

controlling for any other sample differences. The second regression represents a test of mean differences between check and coupon households after controlling for the 16 explanatory variables. The close correspondence in the results is remarkable. This is not because the 16 explanatory variables had no explanatory power. In every instance, a test of whether the additional variables significantly improved fit was significant at the .01 confidence level. While they improved fit, however, they did not change the estimated cashout coefficients by more than 25 percent of the coefficient standard error.

Table A.2 presents the regressions for the money value of food used at home per ENU. In the uncontrolled regression, which corresponds to a two-sample comparison of means test, the coefficient on the check dummy was -5.025, with a corresponding t-statistic of -2.847. In the multiple regression, which corresponds to regression-adjusted comparisons of means, the coefficient on the check dummy is -5.017, with a corresponding t-statistic of -2.953. The difference in the coefficients relative to the uncontrolled standard error[13] is -0.5 percent.

Table A.3 presents the regressions for the money value of purchased food used at home per ENU. In the uncontrolled regression, the food check coefficient is -5.064, in the controlled regression it is -5.293. In the uncontrolled regression the t-statistic was -4.51, in

13. A comparison between controlled and uncontrolled coefficients is not a test of any particular statistical hypothesis. Rather it is a measure of how much bias is introduced by leaving out relevant control variables. The appropriate metric for the bias is size of the difference in coefficients relative to the perceived standard error. Thus we take as the bottom line statistic for consideration the simple difference between uncontrolled and controlled coefficients divided by the standard error from the uncontrolled analysis.

the controlled regression it is -4.78. The difference in the coefficients relative to the uncontrolled standard error is 20.3 percent.

Table A.4 presents the regressions for the money value of nonpurchased food. The impact of cashout on the money value of nonpurchased food is not significant in either regression. In the uncontrolled regression the coefficient is 0.04. In the controlled regression it rises to 0.277. This would appear to be a large change. However, relative to the standard errors, the difference in coefficients was only -17.9 percent, indicating no substantial bias.

Table A.5 presents the regressions for ENU-adjusted energy per RDA. The coefficient in the uncontrolled regression is -.117, in the controlled regression it is -.124. T-statistics increase from -2.412 for the uncontrolled regression to -2.540 in the controlled regression. Relative to the standard errors, the difference in the coefficients is 14.6 percent.

Table A.6 presents the regressions for ENU-adjusted protein per RDA. The coefficient in the uncontrolled regression is -.214, in the controlled regression it is -.218. T-statistics increase from -2.40 for the uncontrolled regression to -2.46 in the controlled regression. Relative to the standard errors, the difference in the coefficients is 4.5 percent.

Table A.7 presents the regressions for ENU adjusted calcium per RDA. The coefficient in the uncontrolled regression was -.107, in the controlled regression it is -.118. T-statistics increase from -1.97 for the uncontrolled regression to -2.21 in the controlled regression. Relative to the standard errors, the difference in the coefficients is 21.8 percent.

APPENDIX B
DIFFERENTIAL IMPACTS OF CASHOUT

In two-sample comparisons of means and in regression-adjusted means, there is an assumption that there is no interaction between the impact of cashout and any other household characteristic. New recipients are assumed to experience the same potential impact as long-term recipients, households with $10 in food benefits experience the same potential impact as households with $300 in food benefits. This assumption would appear to restrict the range of generalizability of the Washington State cashout evaluation to new recipient populations in areas with comparable AFDC payments generosity (since the food stamp benefit varies universally with the AFDC payment level).

In this appendix we take the basic regression adjustment equations introduced in appendix A, and modify them to allow for the possibility of differential impacts by time on the FSP and food benefits amount. The interaction between time receiving food benefits and cashout is very important given the Washington State cashout design because long-term recipients (households continuously enrolled in welfare for more than 26 months) were excluded from the basic comparison sample. How well would our cashout comparisons hold for these households? One way to address this is to identify whether cashout impacts decline for households with long spells of food stamp program participation. We look at six outcomes to examine whether inferences that are legitimate for new applicant food stamp recipients might be reasonably generalized to longer-term recipients.

The second issue we look at is the interaction between the amount of food benefit and cashout. When expressed in the context of the quantity or value of food used, this issue is

similar to the objective of estimating the marginal propensity to consume (MPC) or the marginal propensity to spend (MPS) out of food benefits. It is relevant for three important reasons. First, the literature on food stamp consumption uses the MPC and MPS statistics as summary statistics. Comparison of the Washington State cashout results to the research literature requires similar summary statistics. Second, alternative theoretical models of the impact of cashout on food expenditures and food consumption almost always predict that the impact of cashout should differ by the amount of food benefit. Finally, the relation between the amount of food benefits and welfare payments is close. For every $1.00 decrease in the state welfare payment standard, food benefits increase by $0.30. Washington State's welfare benefits are relatively generous. From a simple comparison of means it is unclear what impact cashout might have in states with more typical welfare payment standards.

A. Cashout Impacts by Time Receiving Food Stamp Benefits

In Tables B.1 through B.6 we present regression results for our six major outcomes, where benefit form is interacted with time receiving food stamp benefits. Respondents were asked when they had first started receiving food benefits. Their responses were grouped into three possible categories, 1-6 months, 7-12 months and more than 12 months. Dummy variables were created where form of benefit was interacted with time receiving food benefit.[14]

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14. In regressions B.1 through B.6, and C.1 through C.5, additional control variables are introduced: 1.0/AME and log(AME). By scaling the dependent variables by AME, specification error in the regression can sometimes result. By adding transformations of AME (and in particular 1.0/AME), this specification error can be reduced or eliminated.

Table B.1 THE EFFECT OF TIME RECEIVING FOOD BENEFITS ON CASHOUT IMPACTS MONEY VALUE OF FOOD USED WEEKLY PER ENU

	Parameter	Standard Error	T-statistic
REGRESSION ADJUSTED IMPACTS OF CASHOUT BY TIME RECEIVING FS BENEFITS			
One to Six Months	-8.9798	4.5615	-1.9686
Seven to Twelve Months	-4.9983	3.2181	-1.5532
More than Twelve Months	-4.0776	2.1615	-1.8865
REGRESSION COEFFICIENTS BY FORM OF BENEFIT AND TIME RECEIVING FS BENEFITS			
Coupon Households			
One to Six Months	8.0479	9.5630	0.8416
Seven to Twelve Months	9.0171	9.1902	0.9812
More than Twelve Months	10.9463	8.9993	1.2164
Check Households			
One to Six Months	-0.9319	9.7936	-0.095
Seven to Twelve Months	4.0187	9.2461	0.435
More than Twelve Months	6.8687	8.8658	0.775
REGRESSION COEFFICIENTS BY CONTROL VARIABLE			
Amount of Food Benefits Received Last Month	0.0488	0.0266	1.8360
Total Nonfood Benefit Income per AME	0.0116	0.0023	5.0610
AFDC Income per AME	0.0015	0.0089	0.1707
White Main Food Preparer	-2.9962	3.8867	-0.7709
Asian Main Food Preparer	-2.5889	6.1496	-0.4210
African-American Main Food Preparer	8.2331	4.8096	1.7118
Hispanic Main Food Preparer	-5.1237	4.8291	-1.0610
Main Food Preparer Did Not Complete 8th Grade	-2.7751	4.2960	-0.6460
Main Food Preparer Did Not Complete High School	-2.6989	1.9156	-1.4089
Earned Income in Household	-2.0987	2.8649	-0.7326
Elderly Person in FCU	3.8116	7.3957	0.5154
Main Food Preparer Female	2.1513	2.8949	0.7431
Main Food Preparer Married	4.4367	2.3756	1.8676
Main Food Preparer Employed	2.8401	3.1077	0.9139
Main Food Preparer less than Thirty-Five Years Old	1.0581	2.1498	0.4922
AME	1.7571	1.6162	1.0872
(1.0 ÷ AME)	33.3509	7.6112	4.3818

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Table B.2 THE EFFECT OF TIME RECEIVING FOOD BENEFITS ON CASHOUT IMPACTS
MONEY VALUE OF PURCHASED FOOD WEEKLY PER ENU

	Coefficient	Standard Error	T-statistic
REGRESSION ADJUSTED IMPACTS OF CASHOUT BY TIME RECEIVING FS BENEFITS			
One to Six Months	-6.4755	3.0068	-2.1537
Seven to Twelve Months	-5.7540	2.1212	-2.7126

Table B.3 THE EFFECT OF TIME RECEIVING FOOD BENEFITS ON CASHOUT IMPACTS MONEY VALUE OF NON-PURCHASED FOOD WEEKLY

	Coefficient	Standard Error	T-statistic
REGRESSION ADJUSTED IMPACTS OF CASHOUT BY TIME RECEIVING FS BENEFITS			
One to Six Months	-2.5047	3.5430	-0.7070
Seven to Twelve Months	0.7570	2.4995	0.3029
More than Twelve Months	0.9039	1.6788	0.5384
REGRESSION COEFFICIENTS BY FORM OF BENEFIT AND TIME RECEIVING FS BENEFITS			
Coupon Households			
One to Six Months	-8.7938	7.4277	-1.1839
Seven to Twelve Months	-9.6914	7.1381	-1.3577
More than Twelve Months	-8.0745	6.9898	-1.1552
Check Households			
One to Six Months	-11.2985	7.6068	-1.485
Seven to Twelve Months	-8.9344	7.1815	-1.244
More than Twelve Months	-7.1706	6.8862	-1.041
REGRESSION COEFFICIENTS BY CONTROL VARIABLE			
Amount of Food Benefits Received Last Month	0.0083	0.0207	0.4032
Total Nonfood Benefit Income per AME	0.0077	0.0018	4.3111
AFDC Income per AME	-0.0066	0.0069	-0.9504
White Main Food Preparer	-6.8012	3.0189	-2.2529
Asian Main Food Preparer	-8.2264	4.7765	-1.7223
African-American Main Food Preparer	-1.2293	3.7356	-0.3291
Hispanic Main Food Preparer	-7.6619	3.7508	-2.0427
Main Food Preparer Did Not Complete 8th Grade	-2.2206	3.3367	-0.6655
Main Food Preparer Did Not Complete High School	1.3728	1.4879	0.9226
Earned Income in Household	-3.3190	2.2252	-1.4916
Elderly Person in FCU	-0.2749	5.7443	-0.0478
Main Food Preparer Female	1.3930	2.2485	0.6195
Main Food Preparer Married	5.4557	1.8452	2.9568
Main Food Preparer Employed	-0.1361	2.4138	-0.0564
Main Food Preparer less than Thirty-Five Years Old	0.6823	1.6698	0.4086
AME	1.8909	1.2553	1.5063
(1.0 ÷ AME)	26.4579	5.9117	4.4755

Table B.4 THE EFFECT OF TIME RECEIVING FOOD BENEFITS ON CASHOUT IMPACTS RATIO OF ENU ADJUSTED ENERGY TO RDA

	Coefficient	Standard Error	T-statistic
REGRESSION ADJUSTED IMPACTS OF CASHOUT BY TIME RECEIVING FS BENEFITS			
One to Six Months	-0.0386	0.1327	-0.2913
Seven to Twelve Months	-0.1180	0.0936	-1.2610
More than Twelve Months	-0.1607	0.0629	-2.5564
REGRESSION COEFFICIENTS BY FORM OF BENEFIT AND TIME RECEIVING FS BENEFITS			
Coupon Households			
One to Six Months	0.8545	0.2781	3.0725
Seven to Twelve Months	0.9152	0.2673	3.4242
More than Twelve Months	1.0455	0.2617	3.9946
Check Households			
One to Six Months	0.8159	0.2848	2.864
Seven to Twelve Months	0.7972	0.2689	2.965
More than Twelve Months	0.8848	0.2578	3.431
REGRESSION COEFFICIENTS BY CONTROL VARIABLE			
Amount of Food Benefits Received Last Month	0.0021	0.0008	2.6806
Total Nonfood Benefit Income per AME	0.0002	0.0001	3.0834
AFDC Income per AME	-0.0001	0.0003	-0.4760
White Main Food Preparer	-0.0714	0.1130	-0.6315
Asian Main Food Preparer	-0.1157	0.1788	-0.6471
African-American Main Food Preparer	0.2303	0.1399	1.6467
Hispanic Main Food Preparer	-0.1807	0.1404	-1.2864
Main Food Preparer Did Not Complete 8th Grade	0.0439	0.1249	0.3511
Main Food Preparer Did Not Complete High School	-0.0982	0.0557	-1.7621
Earned Income in Household	-0.0185	0.0833	-0.2225
Elderly Person in FCU	-0.0689	0.2151	-0.3204
Main Food Preparer Female	0.0034	0.0842	0.0398
Main Food Preparer Married	0.0291	0.0691	0.4206
Main Food Preparer Employed	0.1010	0.0904	1.1177
Main Food Preparer less than Thirty-Five Years Old	-0.0131	0.0625	-0.2096
AME	0.0345	0.0470	0.7341
(1.0 ÷ AME)	0.3797	0.2214	1.7153

Table B.5 THE EFFECT OF TIME RECEIVING FOOD BENEFITS ON CASHOUT IMPACTS RATIO OF ENU ADJUSTED PROTEIN AVAILABLE TO RDA

	Coefficient	Standard Error	T-statistic
REGRESSION ADJUSTED IMPACTS OF CASHOUT BY TIME RECEIVING FS BENEFITS			
One to Six Months	-0.2411	0.2401	-1.0043
Seven to Twelve Months	-0.2530	0.1694	-1.4936
More than Twelve Months	-0.2337	0.1138	-2.0544
REGRESSION COEFFICIENTS BY FORM OF BENEFIT AND TIME RECEIVING FS BENEFITS			
Coupon Households			
One to Six Months	1.3210	0.5033	2.6248
Seven to Twelve Months	1.4162	0.4837	2.9281
More than Twelve Months	1.6354	0.4736	3.4531
Check Households			
One to Six Months	1.0799	0.5154	2.095
Seven to Twelve Months	1.1632	0.4866	2.391
More than Twelve Months	1.4018	0.4666	3.004
REGRESSION COEFFICIENTS BY CONTROL VARIABLE			
Amount of Food Benefits Received Last Month	0.0030	0.0014	2.1270
Total Nonfood Benefit Income per AME	0.0005	0.0001	3.7800
AFDC Income per AME	0.0004	0.0005	0.7934
White Main Food Preparer	0.1665	0.2046	0.8141
Asian Main Food Preparer	0.1321	0.3236	0.4082
African-American Main Food Preparer	0.7067	0.2531	2.7921
Hispanic Main Food Preparer	0.0672	0.2541	0.2643
Main Food Preparer Did Not Complete 8th Grade	0.1714	0.2261	0.7579
Main Food Preparer Did Not Complete High School	-0.2610	0.1008	-2.5891
Earned Income in Household	-0.1362	0.1508	-0.9033
Elderly Person in FCU	-0.6167	0.3892	-1.5845
Main Food Preparer Female	0.1601	0.1524	1.0506
Main Food Preparer Married	-0.0090	0.1250	-0.0720
EMPLOYED	0.2270	0.1636	1.3877
Main Food Preparer less than Thirty-Five Years Old	0.1545	0.1131	1.3654
AME	0.0330	0.0851	0.3880
(1.0 ÷ AME)	0.2709	0.4006	0.6763

Table B.6 THE EFFECT OF TIME RECEIVING FOOD BENEFITS ON CASHOUT IMPACTS RATIO OF ENU ADJUSTED CALCIUM TO RDA

	Coefficient	Standard Error	T-statistic
REGRESSION ADJUSTED IMPACTS OF CASHOUT BY TIME RECEIVING FS BENEFITS			
One to Six Months	-0.1420	0.1449	-0.9800
Seven to Twelve Months	-0.1150	0.1022	-1.1253
More than Twelve Months	-0.1160	0.0686	-1.6893
REGRESSION COEFFICIENTS BY FORM OF BENEFIT AND TIME RECEIVING FS BENEFITS			
Coupon Households			
One to Six Months	0.4955	0.3037	1.6314
Seven to Twelve Months	0.5620	0.2919	1.9256
More than Twelve Months	0.6260	0.2858	2.1901
Check Households			
One to Six Months	0.3535	0.3110	1.137
Seven to Twelve Months	0.4470	0.2937	1.522
More than Twelve Months	0.5100	0.2816	1.811
REGRESSION COEFFICIENTS BY CONTROL VARIABLE			
Amount of Food Benefits Received Last Month	0.0007	0.0008	0.8403
Total Nonfood Benefit Income per AME	0.0005	0.0001	6.3322
AFDC Income per AME	-0.0002	0.0003	-0.7760
White Main Food Preparer	0.1413	0.1234	1.1449
Asian Main Food Preparer	-0.3248	0.1953	-1.6628
African-American Main Food Preparer	0.0341	0.1528	0.2236
Hispanic Main Food Preparer	-0.1152	0.1534	-0.7509
Main Food Preparer Did Not Complete 8th Grade	-0.0050	0.1364	-0.0368
Main Food Preparer Did Not Complete High School	-0.1140	0.0608	-1.8743
Earned Income in Household	-0.1866	0.0910	-2.0504
Elderly Person in FCU	0.0882	0.2349	0.3754
Main Food Preparer Female	0.0257	0.0919	0.2794
Main Food Preparer Married	0.0918	0.0754	1.2161
Main Food Preparer Employed	0.1292	0.0987	1.3091
Main Food Preparer less than Thirty-Five Years Old	-0.0048	0.0683	-0.0707
AME	0.0638	0.0513	1.2431
(1.0 ÷ AME)	0.6497	0.2417	2.6876

Money Value

Three of the outcomes concern the money value of food--the money value of food used at home per ENU, the money value of purchased food at home per ENU, and the money value of nonpurchased food at home. For both check and coupon households the money value of food used and the money value of nonpurchased food tend to increase as the spell length of food stamp program participation increases. Households who started receiving food benefits no more than six months ago have the lowest food use in these two categories. For example, coupon households receiving food benefits for no more than six months use $2.90 less food per week than coupon households receiving food benefits for more than twelve months, and check households receiving food benefits no more than six months use $7.83 less than check households receiving food benefits more than twelve months. The difference between cashout and check households in the money value of food use decreases from $8.98 for households on food stamps less than seven months to $4.08 for households on food stamps more than twelve months. When combined with the results on purchased food and nonpurchased food, the difference between the two groups with respect to the money value of food does decline over time, suggesting that long-term recipients might respond with less cashout impacts than new recipients. This attenuation is caused by the money value of food increasing faster for check households than it does for coupon households.

Nutrient Availability

When we look at the impact of time receiving food stamp benefits on nutrient availability relative to RDA, another pattern emerges. For energy per ENU, protein per ENU, and calcium per ENU there is no systematic decline in the difference between cashout and check households with increasing spell length on food stamps. In fact, the difference for

energy increases with length of food stamp spell, from 0.039 for households receiving food benefits for less than seven months to .161 for households receiving food benefits for more than twelve months. For protein and calcium there is little trend in the difference between check and coupon households. For both check and coupon households, the availability of these nutrients increases over time.

B. Fixed and Marginal Effects of Food Benefits

With respect to the question of differential impacts by benefit amounts, we focus on three most important reference outcomes: the money value of food used monthly per AME, the money value of food purchased per AME, and ENU to adjusted energy amounts per ENU. The scale of the first two outcome variables has been changed to per month and per AME to make them comparable to the explanatory variables.

The question of whether cashout impacts are different between households with differing levels of food benefits can be addressed in a number of different ways. We choose a very simple approach, where the interaction is restricted to be linear. All other things being equal a household's food use is determined by two factors, whether the household received checks vs. coupons, and the amount of food benefits the household received. In turn, these are operationalized as fixed and marginal impacts.

First, there is the fixed impact of cashout. In order to maintain consistency with previous specifications in this report, we allow that cashout might have a fixed impact, i.e., that part of the net impact of cashout is constant, regardless of benefit amount. This is assumed not to vary by household characteristics.

The second concept, the marginal impact of cashout, is based on the marginal propensity to consume, the change in food use for an additional dollar in household food benefits. Possible differences in marginal propensities out of check and coupon food benefits are defined as the marginal impact of cashout. It is one measure of the comparative effectiveness of how a dollar's worth of food benefit is turned into a dollar's worth of food.

The objective of estimating a marginal propensity to consume out of food benefits is important. What is not clear is whether households in Washington State or any other single state have sufficient variation in food benefits to warrant much confidence in the effort. Once we control for family size using an AME scale, the variation in food benefits between households in our sample is relatively small. What is more, the variation that remains will tend to be from three sources--measurement error, the age and sex of household members, and amounts of nonfood benefit income. The impact of $1.00 more in food coupons is, thus, inextricably bound up with the impact of $3.00 less in earned income, a problem all too familiar to researchers attempting to model food stamp participation models.[15] Multicollinearity between the fixed and marginal effects of cashout, caused by the small amount of variation in food stamp benefits adjusted for household size, substantially diminishes our ability to distinguish statistically significant impacts.

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15. Another problem in modeling the MPC out of food benefit income is that of endogeneity. Housing expenditures, all other things being equal, tend to increase food stamp allotments, since they reduce countable cash income. However, housing expenditures, all other things being equal, tend to reduce food expenditures. This will lead to an underestimate of any increase in food expenditures that comes from an increase in food benefit amount. This underestimate would be expected to be largest if all data in an analysis were drawn from one state because a high proportion of the variability in the food benefit amount will be associated with endogenous differences in housing expenditures.

Previous research tends to find that the food use response to an additional dollar in household income is highest for the money value of purchased food. Thus, it is not surprising that the marginal propensity to spend out of a $1.00 in coupon food benefits is substantially higher than the marginal propensity to purchase food out of $1.00 in check food benefits (Table B.7). The marginal propensity to purchase for coupon households is .24 and the marginal propensity to purchase for check households is .03, the difference of .21 being statistically significant at the .10 level.[16] Since food benefits and welfare income for FIP households come in the same check, it is reasonable that the propensity to purchase food out of $1.00 in check food benefits (.028) is not significantly different from the predicted propensity to purchase food out $1.00 in AFDC income (.039).

For overall food use, the marginal propensity with respect to $1.00 in coupons is .297, higher but not statistically so, than the marginal propensity with respect to $1.00 in checks, which is .196 (Table B.8). In terms of percentage change relative to the coupon coefficient, the marginal propensity to use food is 30 percent less for check households than for coupon households. Thus, the impact of cashout on overall food use should increase as average food benefit increases, but at a much slower rate than the rate for food purchases.

For ENU-adjusted energy per RDA, the marginal impact of $1.00 worth of food benefits of either type is not significantly different from zero (Table B.9). Therefore, the difference in marginal impacts is also not significantly different from zero. These results

16. These estimates are consistent with previous research. See, for example, Senauer and Young (1986), who estimate marginal propensities to consume for food expenditures of .26 for coupon benefits and .07 for cash income, and Fraker, Long and Post, who estimate MPCs of .29 and .05 respectively.

Table B.7 THE EFFECT OF BENEFIT AMOUNT ON CASHOUT IMPACTS
MONEY VALUE OF PURCHASED FOOD MONTHLY PER AME

	Parameter	Standard Error	T-statistic
CASHOUT - FIXED AND MARGINAL IMPACTS			
Fixed Difference (Check-Coupon)	-0.4305	11.9777	-0.0359
Marginal Difference (Check-Coupon)	-0.2099	0.1177	-1.783
REGRESSION COEFFICIENTS			
CONSTANT BY FOOD BENEFIT FORM			
Food Benefit Received as Check	69.4957	70.4383	0.987
Food Benefit Received as Coupon	69.9262	71.1764	0.982
MARGINAL EFFECTS OF FOOD BENEFITS			
Amount of Last Month's Food Benefit Check per AME	0.0284	0.1030	0.277
Amount of Last Month's Food Stamp Coupons per AME	0.2383	0.0891	2.676
CONTROL VARIABLES			
Total Nonfood Benefit Income per AME	0.0088	0.0054	1.6268
AFDC Income per AME	0.0395	0.0213	1.8505
White Main Food Preparer	4.5270	9.2742	0.4881
Asian Main Food Preparer	13.5532	14.6819	0.9231
African-American Main Food Preparer	20.9107	11.5320	1.8133
Hispanic Main Food Preparer	9.8616	11.5653	0.8527
Main Food Preparer Did Not Complete 8th Grade	1.1402	10.2291	0.1115
Main Food Preparer Did Not Complete High School	-11.1203	4.5464	-2.4460
Earned Income in Household	3.3035	6.7692	0.4880
Elderly Person in FCU	30.7264	17.5821	1.7476
Main Food Preparer Female	-0.3803	6.8614	-0.0554
Main Food Preparer Married	3.4349	5.7543	0.5969
Main Food Preparer Employed	-0.4426	7.3308	-0.0604
Main Food Preparer less than Thirty-Five Years Old	-1.5596	5.0649	-0.3079
AME	1.2803	15.3578	0.0834
(1.0 ÷ AME)	39.7999	84.9102	0.4687
Logarithm of AME	-7.4195	77.6049	-0.0956

Table B.8 THE EFFECT OF BENEFIT AMOUNT ON CASHOUT IMPACTS
MONEY VALUE OF FOOD USED MONTHLY PER AME

	Paramter	Standard Error	T-statistic
CASHOUT - FIXED AND MARGINAL IMPACTS			
Fixed Difference (Check-Coupon)	-7.0654	15.7960	-0.4473
Marginal Difference (Check-Coupon)	-0.1007	0.1552	-0.649
REGRESSION COEFFICIENTS CONSTANT BY FOOD BENEFIT FORM			
Food Benefit Received as Check	-12.3868	92.8923	-0.133
Food Benefit Received as Coupon	-5.3214	93.8658	-0.057
MARGINAL EFFECTS OF FOOD BENEFITS			
Amount of Food Benefit Check per AME	0.1960	0.1358	1.4430
Amount of Food Stamp Coupons per AME	0.2967	0.1175	2.5262
CONTROL VARIABLES			
Total Nonfood Benefit Income per AME	0.0165	0.0071	2.3148
AFDC Income per AME	0.0362	0.0281	1.2869
White Main Food Preparer	-19.6996	12.2306	-1.6107
Asian Main Food Preparer	-14.7835	19.3621	-0.7635
African-American Main Food Preparer	6.2269	15.2081	0.4094
Hispanic Main Food Preparer	-17.5635	15.2520	-1.1516
Main Food Preparer Did Not Complete 8th Grade	-5.4141	13.4899	-0.4013
Main Food Preparer Did Not Complete High School	-4.6080	5.9957	-0.7685
Earned Income in Household	-7.2123	8.9270	-0.8079
Elderly Person in FCU	33.6277	23.1869	1.4503
Main Food Preparer Female	5.9465	9.0486	0.6572
Main Food Preparer Married	25.5012	7.5886	3.3605
Main Food Preparer Employed	4.7086	9.6677	0.4870
Main Food Preparer less than Thirty-Five Years Old	0.4424	6.6794	0.0662
AME	-3.6506	20.2535	-0.1802
(1.0 ÷ AME)	186.5930	111.9776	1.6663
Logarithm of AME	48.5677	102.3436	0.4746

Table B.9 THE EFFECT OF BENEFIT AMOUNT ON CASHOUT IMPACTS
RATIO OF ENU ADJUSTED ENERGY TO RDA

	Parameter	Standard Error	T-statistic
CASHOUT - FIXED AND MARGINAL IMPACTS			
Food Benefit Received in Form of Check	-0.1567	0.1486	-1.0545
Marginal Difference (Check-Coupon)	0.0003	0.0015	0.206
REGRESSION COEFFICIENTS CONSTANT BY FOOD BENEFIT FORM			
Food Benefit Received as Check	2.3080	0.8737	2.642
Food Benefit Received as Coupon	2.4647	0.8828	2.792
MARGINAL EFFECTS OF FOOD BENEFITS			
Amount of Last Month's Food Benefit Check per AME	0.0015	0.0013	1.160
Amount of Last Month's Food Stamp Coupons per AME	0.0012	0.0011	1.069
CONTROL VARIABLES			
Total Nonfood Benefit Income per AME	0.0002	0.0001	2.9460
AFDC Income per AME	0.0000	0.0003	-0.1678
White Main Food Preparer	-0.0849	0.1150	-0.7379
Asian Main Food Preparer	-0.1375	0.1821	-0.7548
African-American Main Food Preparer	0.2262	0.1430	1.5811
Hispanic Main Food Preparer	-0.2119	0.1434	-1.4774
Main Food Preparer Did Not Complete 8th Grade	0.0663	0.1269	0.5225
Main Food Preparer Did Not Complete High School	-0.1016	0.0564	-1.8023
Earned Income in Household	-0.0415	0.0840	-0.4940
Elderly Person in FCU	-0.0850	0.2181	-0.3900
Main Food Preparer Female	0.0229	0.0851	0.2693
Main Food Preparer Married	0.0568	0.0714	0.7956
Main Food Preparer Employed	0.1321	0.0909	1.4533
Main Food Preparer less than Thirty-Five Years Old	-0.0183	0.0628	-0.2914
AME	0.3307	0.1905	1.7363
(1.0 ÷ AME)	-1.3667	1.0532	-1.2977
Logarithm of AME	-1.6046	0.9626	-1.6670

suggest that the form of benefit may have a fixed impact on nutrient availability, a finding consistent with the very low income response typically observed for nutrient intake.

C. Conclusion

An interactive analysis of the cashout sample leads to four basic conclusions. First and most important, cashout impacts on nutrient availability do not appear to diminish over time. Thus, application of the nutrient availability results of our new-applicant sample to a population of typical food stamp recipients receiving AFDC may be reasonable. Second, cashout impacts on the money value of food used appear to diminish over time. The money value of food used and food purchased increase as length of time on food stamp increases, but the money values for check households appear to "catch up" relative to coupon households.

The relationship between cashout and amount of food benefit leads us to two other conclusions. First, for food energy and the money value of food used in a month, we cannot reject models where cashout has a fixed impact, nor can we reject models where cashout has an effect proportional to the amount of food benefit. We cannot say that the impact of cashout for households receiving $10 is the same as those receiving $300, nor can we say whether it is different. For these types of outcomes, it would be highly speculative even to guess, based on the analysis in this report of data from only one state, whether high or low welfare payment states would be more influenced by cashout. For the money value of purchased food, the argument for modeling cashout as having effects proportional to the amount of food benefits is a little stronger. At least among the Washington State sample,

impacts on food purchases appear proportional to the amount of food benefit. How reliably anyone can extrapolate these results to other states is unknown.

APPENDIX C

HOUSEHOLD CHARACTERISTICS BY FIP ASSIGNMENT STRATUM

The core analysis of this report is based on comparable samples with mandatory treatment assignment. (These are by definition new applicants at the FIP sites and, by design therefore, new applicants at the AFDC sites.) This does not constitute the entire cashout survey data. Data were also collected from 413 long-term recipient households. These fall into three groups: long-term recipients in FIP sites who chose cashout, their counterparts in FIP sites who chose to continue with coupons, and long-term recipients in the AFDC sites who all continued with coupons. Sample design objectives called for 133 households from each of these three strata. In this appendix we briefly review the characteristics of these strata. It should be emphasized that self-selection is not an issue for the households included in the analyses reported in the text.

A. Comparative Characteristics

Table C.1 through C.3 present sample means. There are six columns in each table. The first two summarize descriptive statistics for the analysis sample, from other parts of the report. The next three columns cover the long-term recipients.

Table C.1 shows primary outcome measures by stratum. The long-term households in FIP sites who selected FIP (and therefore cashout) are generally similar to the households assigned to check status. The long-term households in FIP sites who selected AFDC (and therefore coupons) generally have somewhat lower use and nutrient availability than the new

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Table C.1 PRIMARY OUTCOME MEASURES BY STRATA

	New Applicants		Long-Term Recipients			
	FIP Site	AFDC Site	FIP Site (Self-Selected Treatments)		AFDC Site	
	Check	Coupon	Check	Coupon	Coupon	Total
MONEY VALUE OF FOOD USED ($ per week)						
All Food	65.35	72.63	63.04	70.26	75.58	69.22
Purchased Food	50.80	60.42	52.43	60.98	66.45	57.12
Nonpurchased Food	14.55	12.21	10.62	9.28	9.07	12.10
MONEY VALUE OF FOOD USED PER ENU ($ per week)						
All Food	37.30	42.32	33.95	34.25	40.51	38.58
Purchased Food per ENU	28.29	33.36	28.24	29.39	34.86	30.83
Nonpurchased Food per ENU	9.00	8.96	5.71	4.86	5.62	7.75
RATIO OF NUTRIENT AVAILABILITY PER ENU TO RDA (percent)						
Food Energy	132.0	143.7	128.3	133.0	147.4	137.3
Protein	243.2	264.6	248.9	260.9	275.5	256.6
Calcium	124.4	135.0	110.0	100.5	128.2	124.0
Sample Size	399	381	133	134	146	1193

Source: Washington State Cashout Survey

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Table C.2 HOUSEHOLD CHARACTERISTICS BY STRATA (percent)

	New Applicants		Long-Term Recipients			
	FIP Site	AFDC Site	FIP Site (Self-Selected Treatments)		AFDC Site	
	Check	Coupon	Check	Coupon	Coupon	Total
AVERAGE HOUSEHOLD INCOMES						
All Non-Food Benefit	646.39	687.55	640.25	643.51	635.66	657.24
Earned Income	176.31	239.94	176.71	77.60	130.37	180.02
AFDC Income	398.50	362.13	396.39	439.24	421.80	394.05
Food Benefit	193.49	175.53	195.41	179.99	191.84	186.24
Ratio of Food Benefit to Food Benefit and Non-Food Benefit	28.8	29.2	27.4	26.2	26.8	28.3
HOUSEHOLD SIZE AND DEMOGRAPHICS						
Adult Male Equivalents (AME)	2.17	2.19	2.33	2.48	2.36	2.25
[illegible]	1.95	1.98	2.03	2.20	2.05	2.01

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Table C.3 CHARACTERISTICS OF THE MAIN FOOD PREPARER BY STRATA(percent)

	New Applicants		Long-Term Recipients			
	FIP Site	AFDC Site	FIP Site (Self-Selected Treatments)		AFDC Site	
	Check	Coupon	Check	Coupon	Coupon	Total
GENDER, MARITAL AND EMPLOYMENT STATUS AND AGE						
Female	82.2	89.8	88.7	85.8	90.4	86.8
Married	27.1	21.7	16.5	21.6	15.8	22.2
Employed	16.8	16.8	16.5	4.5	13.7	15.0
Less than 35	75.9	84.0	77.4	53.0	68.5	75.2
EDUCATION						
Did not finish Elementary School	4.0	5.0	8.3	29.1	9.6	8.3
Elementary completed but not High School	22.8	28.3	23.3	28.4	26.7	25.7
High School completed	73.2	66.8	68.4	42.5	63.7	66.0
RACE OR ETHNIC ORIGIN						
White	79.7	72.8	79.7	48.5	70.5	72.9
Hispanic	6.0	10.2	5.3	7.5	3.4	7.1
Black	5.0	10.5	6.0	8.2	10.3	7.9
Asian	5.0	1.3	4.5	27.6	4.1	6.2
Other race	4.3	5.2	3.8	8.2	11.6	5.9
Sample Size	399	381	133	134	146	1193

Source: Washington State Cashout Survey

applicants assigned to coupons, though higher levels than the check groups. Long-term recipients in the AFDC sites, who had no choice but to remain on AFDC and coupons, generally have the highest levels of all.

Long-term recipients appear to obtain less nonpurchased food than new applicants, adversely affecting their overall food use. Household characteristics (Table C.2) and characteristics of the main food preparer (Table C.3) indicate that long-term recipients who selected AFDC coupons when given the choice are not a comparable group. They have lower earnings and larger families than all the other groups. The main food preparer is less likely to be employed, and much less likely to be white, and much more likely to be Asian.

B. Perceived Reasons for Program Choice

Tables C.4 and C.5 report on supplementary attitudinal information collected in the Washington State cashout survey. During the orientation interview, a set of questions probed respondents about their choice of programs. Among the 267 respondents in the long-term recipient households who were in fact able to make a choice, only slightly more than half (143) could recall making the choice. When these households were asked about their choice, it became clear that cashout played a large role. Of the sample who indicated that they had chosen FIP, 94 percent responded that they would have made the same choice if cashout had been the only change. Of the households who indicated that they had chosen AFDC, 89.5 percent responded that they would have made the same choice if cashout had been the only change.

The remaining questions concern other factors that influenced the household's decision. For factors to qualify they must share two criteria. First, the program that was

Table C.4 GENERAL FIP/AFDC PROGRAM CHARACTERISTICS LEADING TO TREATMENT SELECTION

	Chose FIP	Chose AFDC
Would Have Made Same Choice If Cashout the Only Change	94.2	89.5
Factors Influencing Eventual Decision		
Preferred Chosen Program's Form of Food Benefit	84.3	84.6
Preferred Chosen Program's Child Care Benefits	65.9	31.9
Preferred Chosen Program's Education and Training Benefits	88.0	28.3
Preferred Chosen Program's Medical Coverage	58.4	58.3
Thought Chosen Program Had More Incentive to Work	77.1	23.3
Advice From Caseworker	40.0	17.0
Feelings About Trying New Things	67.9	21.6
Some Other Reason	29.1	34.0
Sample Size	86	57

Source: Washington State Cashout Survey

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Table C.5 ATTITUDES TOWARDS FORM OF FOOD BENEFITS INFLUENCING PROGRAM CHOICE

	Chose FIP	Chose AFDC
USING STAMPS MAKES YOU FEEL DIFFERENT		
Reason to Choose Food Stamps	1.2	24.5
Not a Reason to Choose	18.8	60.4
Reason to Choose Food Checks	80.0	15.1
	100.0	100.0
STAMPS CHANGE PLANS FOR FOOD EXPENSES		
Reason to Choose Food Stamps	18.8	72.7
Not a Reason to Choose	37.7	20.0
Reason to Choose Food Checks	43.5	7.3
	100.0	100.0
CAN'T SPEND STAMPS ON MOVIES/ALCOHOL ETC...		
Reason to Choose Food Stamps	22.4	76.4
Not a Reason to Choose	54.1	16.4
Reason to Choose Food Checks	23.5	7.3
	100.0	100.0
ONLY PERSON SIGNED UP FOR STAMPS CAN USE		
Reason to Choose Food Stamps	12.9	38.9
Not a Reason to Choose	52.9	51.8
Reason to Choose Food Checks	34.1	9.3
	100.0	100.0
HOUSEHOLD BUYS MORE FOOD WITH STAMPS		
Reason to Choose Food Stamps	25.3	75.9
Not a Reason to Choose	42.2	22.2
Reason to Choose Food Checks	32.5	1.9
	100.0	100.0

Source: Washington State Cashout Survey

chosen is perceived as superior in that characteristic. Second, the superiority of the characteristics is perceived as influencing the decision.

At the time that FIP was implemented, post-participation Medicaid eligibility was limited under AFDC. Nevertheless, 58 percent of both AFDC and FIP respondents said they preferred their program's Medicaid coverage. All other factors appeared to favor FIP. The largest single reason for choosing FIP was the education and training benefits.

Finally, we looked at attitudes towards cashout in more detail (Table C.5). Not surprisingly, the strong attitudes towards form of food benefit discussed in Chapter VI appear to influence program decision. Unlike questions in the core questionnaire, these questions are asked to a set of persons who actually made a choice, and thus may be more reflective of the actual preferences of the individuals. For households that chose FIP, 80 percent cited "feeling different" as a reason. The restrictiveness of coupons, as in the earlier analysis, appears to be a feature that on balance favors coupons. Over 70 percent of the coupon respondents cited "stamps change plans for food expenses", "can't spend stamps on movies/alcohol", and "household buys more food with stamps" as reasons to choose stamps. However, 44 percent of check respondents felt that differences in plans caused by coupons were a reason to prefer checks, and 32 percent of the same group felt that increased food purchases caused by stamps was a reason to prefer checks.

APPENDIX D

DISTRIBUTIONAL EFFECTS OF CASHOUT

This appendix presents findings from a distributional analysis of key outcome measures taken from the detailed food use data that were collected in the household survey. The intent of the analysis is to determine whether the effects of cashout were concentrated among households in the lower halves of the distributions of the measures. These households may be more vulnerable to poor nutritional status due to lack of adequate resources or nutrient availability.

Table D presents the median values of the money value of food used at home per ENU, and the availability of food energy, protein and calcium. A comparison of the median values presented in this table to the mean values for these measures, presented in Tables IV.1, IV.5 and IV.6, reveals that the reductions in the median values for each measure were either smaller than or the same size as the reductions in the mean values. This indicates that the effects of cash-out were not disproportionately concentrated among the potentially more nutritionally vulnerable households.

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Table D MEDIAN VALUES OF SELECTED OUTCOME MEASURES

	Median		Difference	
	Check	Coupon	Absolute	Percent
NUTRIENT AVAILABILITY PER ENU (Percentage of RDA)				
Food Energy	121.2	128.1	-6.9	-5.38
Protein	224.8	237.9	-13.1	-5.51
Calcium	113.5	118.8	-5.3	-4.46
MONEY VALUE OF FOOD USED AT HOME (per ENU - in Dollars)				
Purchased Food	26.11	29.76	-3.65	-12.26
All Food	32.77	35.44	-2.67	-7.53
Sample Size	399	381		

Source: Washington State Cashout Survey
Percent difference = (median check - median coupon)/median coupon
Statistical significance levels: * = .10, ** = .05, *** = .01

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